PROCEEDINGS

OF THE

THIRD NATIONAL CONFERENCE ON CITY PLANNING

PHILADELPHIA, PENNSYLVANIA

MAY 15-17, 1911



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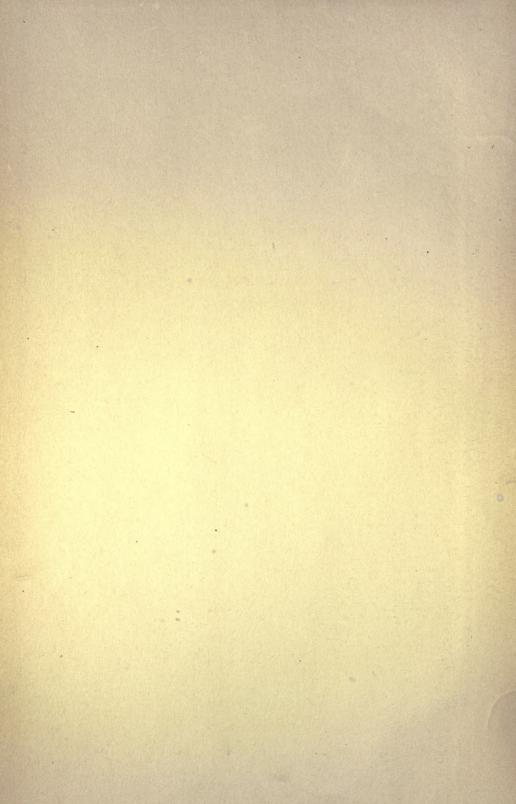
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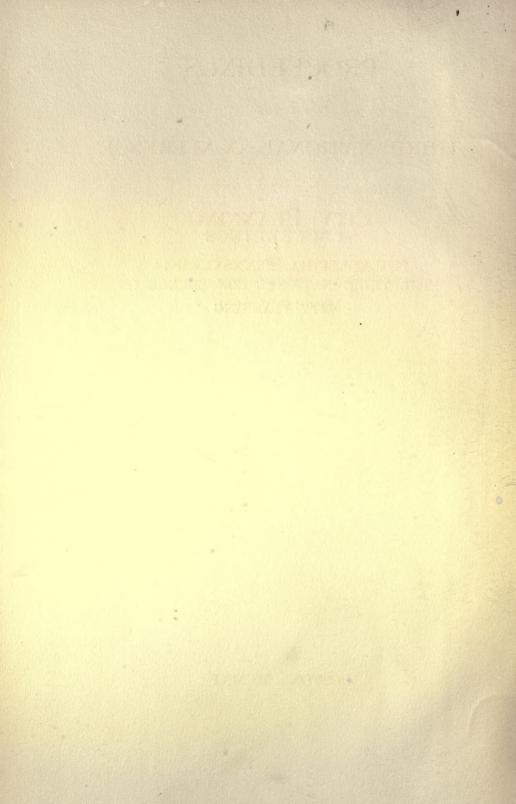
Q. Frank Beer, Esq.



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EDITORIAL NOTE

The papers presented at the Conference appear in full, but the discussions, both prepared and extemporaneous, have been for the most part somewhat shortened in the effort to keep the Proceedings within the covers of one volume, and yet to eliminate nothing except explanations or repetitions.

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ADDRESS OF WELCOME

HON. JOHN E. REYBURN Mayor of Philadelphia

I BELIEVE this to be one of the most important conferences that has been held, not only in the United States, but in the world, and one that will bring about good results to the city of Philadelphia and to all cities and communities that are taking up this great subject of planning their development in the interests of the people. City planning enters largely into the life of each community. The great subject of the development of our civic conditions, is however, not local; but local conditions can be better thought out by having the wisdom and experience of others to guide us, and so to-day I feel that this is an important epoch for Philadelphia, to arouse her citizens to the importance of a planned growth.

We have tried here to think it out. We have been at work, and I say "we," because the one man who stands at the head has simply listened to good advice. Whatever we have accomplished has been through the right thinking of all classes of men, and especially of those whose business it is to develop better homes, better streets, better buildings for public uses, and all the elements which make up a great civic community. We have had the support and the advice of the officers of this conference. We have had the guidance of others like our park associations and our organizations of architects and engineers. Two years ago we had a conference here of citizens of all classes and conditions. At this conference subcommittees were appointed; and for two years they have worked in order to lay before our people plans

for the development of our city, some of which you have seen around the walls of this municipal building. We believe these plans will be followed out — not in this year, but for many years, and that a wonderful work will be accomplished for our city, and by the same ideas other communities will be benefited.

Those of us who can travel see the wonderful result of planning in other countries, but the great mass of our population cannot see it; and when it is laid before them as it is to-day, around these halls, they get the idea that their needs are being considered,—that they are not forgotten. I believe that instead of being a burden, these plans for development can be accomplished without increased taxes, and that the city will be benefited not only in a financial sense, but by developing in the people the idea that the city exists not for a class, but for all classes. I therefore have advocated, and I believe, that we can take advantage of the natural conformation of this city, and plan avenues for parkways and spaces for recreation which will overwhelmingly convince the people that we are planning not with a one-sided motive, but for the good of all.

I welcome you here to-day because I believe that you, too, are actuated by these same ideas. I welcome those who come from the distant shores of our own country, and those who are here from other countries, because I feel that there is a great movement going on in the world that will bring all countries together. Eventually, perhaps, we will have an international conference which will bring all the world closer together in a discussion of these problems. Again let me express to you the deep obligation that this city is under to you for coming here to hold this conference, and let me again welcome you in the heartiest way and remind you that we will do all we can to make your stay a pleasant one. We wish this conference the greatest success.

REPLY IN BEHALF OF THE CITY PLANNING CONFERENCE

Mr. Frederick Law Olmsted Chairman Executive Committee

Mr. Chairman, your Honor, fellow members of the Third National Conference on City Planning, and guests of the city of Philadelphia:

On behalf of the committee that was appointed to arrange for the present conference and on behalf of all those who have gathered to attend its sessions, I have the honor to express a very grateful appreciation of the extraordinarily cordial hospitality which has been extended to us by the city through its chief magistrate and his administration and by the City Club and the committees of citizens who have so admirably labored to make a success of the occasion that brings us together.

Hospitality to strangers has always been characteristic of Philadelphia and Philadelphians, but in the warmth with which we have been received and in the preparation for advancing the work of the conference we must recognize much more than another expression of Philadelphia's amiable hospitality to any well-disposed visitors; and greatly as we appreciate the social amenities of our so-journ here, our thanks are due even more for the direct contributions which the city has made and is making to the advancement of the subject which brings us together.

That a conference of this sort, to discuss matters of a quasi-technical nature, should call forth such attention in a great city like Philadelphia is evidence of a keen appreciation of the vital importance of the subjects to be dis-

cussed; evidence of the alertness of your Honor's administration to advance the policy of foresighted city planning, in which this municipality has already made such notable advances as compared with most American cities; evidence of a realizing sense on the part of leading citizens wholly unconnected with the city government of the pressing need for that additional light and knowledge which this conference is striving to secure in regard to many of the perplexing problems of city planning.

In view of this general interest and because many of those here present did not attend the first and second conferences, a brief explanatory statement would seem appropriate before the regular sessions of the conference begin. It is needless, perhaps, to say that the first conference was held in Washington in 1909 on the initiative of the Committee on Congestion of Population in New York, and on the call of a committee appointed by the first conference, a second conference was held in Rochester in 1910, which appointed the committee over which I have had the honor to preside and which in turn completes its duties by arranging for the present conference.

The purpose of these conferences has been to afford opportunity for personal discussion of various phases of the subject by those who are concerned with it on any of its many different sides, in the confident belief that such personal discussion helps each to a clearer understanding of the relation between his own point of view and those of others, to a better appreciation of the bigness and the complex unity of the subject as a whole, and in the hope that such exchange of views will result in real contributions to the science and art of city planning.

The briefer title of this third conference as compared with its two predecessors, each of which was called a "Conference on City Planning and the Problems of Congestion," so far from indicating any narrowing of scope is intended to express the breadth and unity of the subject with which we have to deal. To some the title of the previous con-

ferences may have suggested that we were concerned with two distinct but related subjects: on the one hand the problems of a limited kind of city planning, dealing mainly with street plans and civic embellishment, and on the other hand the problems of congestion. The fact is we are concerned with a single complex subject, namely, the intelligent control and guidance of the entire physical growth and alteration of cities; embracing all the problems of relieving and avoiding congestion, - congestion of people in buildings and of buildings upon land, congestion of transportation facilities or of recreation facilities, congestion in respect to the means of supplying light, air, water, or anything else essential to the health and happiness of the people, but also embracing in addition to the problems of congestion. each one of the myriad problems involved in making our cities year by year, in their physical arrangement and equipment, healthier, pleasanter and more economical instruments for the use of the people who dwell within them in carrying on that part of the work and life of the world which is not to be done in the open country.

Like any live, productive organism, every city that is not moribund is in a constant state of change and growth. Numerical increase of population, in the current phase of human history, is so regular a feature of live and productive cities that it is generally accepted as the chief index of their vigor. It is so obvious that this increase of population necessitates additions to the physical equipment of the city (such as more houses, more stores, more streets, sewers, water pipes, telephone lines, etc.), and we are so accustomed to the sight of new construction going on actively under the stimulus of this necessity in a manner calculated to meet many of these demands, that we are apt to ignore two considerations very important to the healthy outcome of this active growth.

The first of these is that the need for additional equipment caused by the increase of population stimulates the supply of some kinds of equipment very directly and almost

automatically, but in the case of other kinds only very indirectly and often so tardily as to cause serious hardship and economic loss. Of course the demand is most promptly and automatically met in the cases where there is likely to be a prompt, direct and rapid return of the capital invested in supplying the new equipment and facilities. The establishment of places for the retail supply of food and drink and other common supplies of daily life follows with astonishing promptitude on the rise of a demand. Under normal conditions the supply of dwellings of some sort keeps pace with the demand in quantity tolerably well, although in respect to kind and quality there is a lack of that nice adjustment of the supply to the demand which abstract economic law would seem to promise. This is partly due to the fact that the standards which people tend to demand in regard to many features of a dwelling shift, and in most respects advance, much more rapidly than it is possible to recover the capital invested in out-of-date types of building, except by charging prohibitive rents. This creates a relative plethora of old and inferior buildings which necessarily lowers the average standard at which supply and demand will meet. But the condition is due also in large measure to the very many and complicated influences of a wholly artificial and controllable kind, such as the presence or absence of various building regulations and other exercises of the police power defining arbitrarily what must and what must not be done, and also the varying incidence of taxation upon land and buildings. It is notorious that these artificial influences, absolutely under the control of the people, are often such as to retard rather than to stimulate the adjustment of supply to demand in housing. Here we come to one of the basic features of intelligent city planning, namely, the careful scrutiny of those exertions of the police power and of the taxing power which have any decided influence upon the form and character of buildings or other features of the city's physical equipment, and their deliberate and careful, but courageous alteration, if their influence 161

can thereby be exerted toward a healthier, more desirable

and economically sound development.

The opportunity for profit in supplying the demand for additional buildings which accompanies increase of population, carries with it the motive for supplying just such other needs of the additional population as are necessary to the marketing of the buildings. In some localities, especially in suburban municipalities just outside the limits of a large city, where the taxes may be low for the time being and but little control is yet exerted under the police power, buildings may be sold and occupied without the provision of a single one of those facilities which are commonly provided or maintained in modern cities by collective action. Water may be furnished by a well on the premises, subject to inevitable contamination as the district fills up with houses: waste may be turned into a cesspool, beginning at once its share of the contamination of the soil. The access to the buildings may be merely by a path or wagon track on the natural surface of the ground over a narrow right-of-way extending from the nearest public road. Yet the price of the buildings and the lots they stand upon will be based upon the reasonable expectation that all these deficiencies will be made good without serious burden to the purchaser in the course of a comparatively few years, presumably before the increasing density of population makes such rural arrangements seriously detrimental to the property. The price is fixed by the expectation that the prospective urban equipment will come in large part without any additional or higher charge to the occupants of these buildings for the services rendered than is made in the case of those for whom the full equipment is already in existence and paid for. In some communities even the grading and the proper permanent paving of the local street in front of the buildings and the construction of the local sewer which connects them with the main are put in, whenever the belated time comes for putting them in, at the cost of the city. Generally these two expenses are recog-

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nized as being so clearly a necessary incident of the proper utilization of the buildings that the cost is by one means or another charged in whole or in part upon the owners of the abutting lots; but it very frequently happens that this burden falls upon ignorant purchasers who have paid a price that did not take fairly into consideration this impending burden.

The equipment for the supply of water, electricity, gas and other services which are supplied on a commercial basis and require only such space as is generally available in the streets above or below ground, are provided like the streets in response to increasing demand. But in the case of such features of the equipment of a civilized city as school sites and schoolhouses, playgrounds, parks, squares, and main traffic thoroughfares for the larger movements of materials and passengers, all of which in some degree are expected and the expectation of which largely gives marketable value to every building site, there is no commercial mechanism by which the demand can ordinarily beget a supply. Houses and streets for house frontage will come into existence, well or ill, by individualistic commercial enterprise, to meet the demand created in a town of growing population; but schools and other public buildings and their grounds, together with public open spaces for every general public purpose from parks to traffic thoroughfares and canals, can only be provided by deliberate conscious co-operative action. Ordinarily such action lags so far behind the demand for facilities in a growing city that a considerable part of the population is at all times waiting in a very ill-provided condition, and labors under a severe and needless handicap. What is more serious, such collective action, occurring as it does only in response to long continued and clamorous demands, lags very far, indeed, behind the development of private property, which occurs largely in speculative anticipation of demands; and therefore it frequently becomes impossible for the community when it does move to obtain any adequate

and satisfactory provision for those needs except by destroying previous private developments at a cost which may be altogether prohibitive.

Here we come to the second basic feature of intelligent city planning, that of forecasting as well as our knowledge permits what the reasonably expectable needs of the future will demand in the way of land for all sorts of collective purposes, and then deciding in view of this forecast just what it will pay to do in the way of reserving all or a part of this land from obstructive occupation by private improvements.

I have tried to point out above one consideration familiar to this audience but too little in the minds of most of those who watch the activity of building which accompanies increase of population in our cities: namely, the fact that the laws of demand and supply, which may safely be trusted to maintain this activity as long as the increase of population continues, are very generally producing buildings, streets, and neighborhoods which are not as well suited to the needs of the people as the people are willing and able to pay for, and that they are heedlessly blocking the way of remoter public improvements upon which the health and prosperity of the inhabitants of these very buildings will in the future depend. I have pointed out also two basic ideas of city planning upon which reliance must be placed for meeting this deplorable situation: first, the modification of the present building laws and other police regulations and the modification in some instances of the methods of taxation, so as to make it relatively more profitable to build in a manner that will approximate the best standards that are within the economic reach of the people and so as to make it impossible to build in a manner tending seriously to depress the standard of health and happiness among the people; second, the exercise of real initiative in forecasting the probable future requirements of land for collective uses and in taking measures, wherever they can be shown to be expedient, for preventing the obstructive private occupation of such areas, especially in districts now undeveloped.

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There is another important consideration which, I think, has often been overlooked even by ardent advocates of city planning and by those engaged in developing city plans. This consideration is that there is a great deal of growth and change in a city quite independent of increase of population. It is possible to conceive of a healthy prosperous productive city the inhabitants of which would not vary much in number from decade to decade. If such a phenomenon is unknown to-day it may not be so abnormal a few centuries hence. But it would not follow from the substantially unchanging size of the city that its physical make-up would remain without change, any more than its inhabitants would become a company of unchanging immortals because their number remained about the same. Just as new generations replace the old with individuals who differ from their predecessors to some extent in body and in mind, so in such a city old buildings, old streets, old institutions must give way, more slowly but no less certainly, to new and different generations. New conditions in commerce, industry, art, fashion, and government would constantly give rise to changes in the physical equipment for their prosecution. Quarters built for people with a given set of standards would continue to be abandoned either because that particular combination of standards had been outgrown or because that class of people had found it convenient to move elsewhere. New industries with unforeseen requirements as to transportation facilities, or extent of plant, or otherwise, would be compelled to displace older and less productive occupants, often requiring radical changes in streets, railways, waterfront developments and the like. Large blocks of land devoted to outgrown uses would have to be subdivided for the erection of dwellings. Such changes of use and the reconstructions and readjustments of the city plan which they involve are much intensified by rapid growth of population, but they are not merely accidental accompaniments of that growth. They are absolutely normal features of healthy, vigorous municipal

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life. To ignore them or to regard them as exceptional and extraordinary interferences with the normal execution of a rigid city plan, made once for all, is perhaps the worst as it is the commonest mistake in regard to the whole subject. No city plan is a thoroughly good one which does not recognize the need for flexibility and alteration.

It is indeed one of the gravest of the many evils of the gridiron plan and a serious defect of geometrical plans like that of Washington, based upon the gridiron plan with diagonals, that they make it excessively difficult to bring about local changes, such as increasing the size of the lots and blocks in a given neighborhood without appearing to contradict the orderly basis of the whole system and opening the door to chaos. Where a street runs for a great distance through a dozen different localities, even if it is not one of the wider thoroughfares of the city, no portion of it can be abandoned or diverted or otherwise radically altered for the sake of promoting the best development of one of those localities without disregarding the interest of the eleven others in the continuity of the street. Where nearly all the streets in a city are so laid out, the conflicting interests of different localities in each part of every street form and bind the city as in a straight-jacket. The inertia to be overcome in securing at any place in the city blocks and lots of other than the accepted standard depth is almost insuperable, no matter what the economic, sanitary, or æsthetic gain of such adjustment might be.

Perhaps the most important principle in the planning or the extension of a street system, in order to make possible a proper flexibility of plan, is that there should be a marked differentiation between the thoroughfares and the local streets; the former dividing the city into big blocks that may be regarded as normally permanent and rigid in outline; the latter subdividing these big blocks into minor blocks of varying sizes and shapes, which can in the future be further subdivided or thrown together into larger units by closing certain streets or

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otherwise modified. It is a troublesome fact that the most reasonable depth of city lots for the dwellings of the mass of the people appears to be about one-half the depth most generally desired for commercial and industrial use and for a considerable class of large private dwellings; and it is impossible to foretell very far in advance for which uses any given locality will be most available, or how the uses will change with the lapse of time. The system of adopting an average depth of lot and of size of block and striving to conform as closely as possible to this average, is as common as it is irrational. Such a system deliberately attempts to prevent the existence of lots properly and economically adapted to any one of those multitudinous purposes whose demands differ from the average - deliberately attempts to insure that all the round pegs must be put in square holes. I am speaking of the need of flexibility in regard to size of lots and blocks and therefore in regard to the location and design of purely local streets, because the working of the principle is there most clearly seen. But the principle applies throughout the field of city planning. We must disabuse the public mind of the idea that a city plan means a fixed record upon paper of a desire by some group of individuals prescribing. out of their wisdom and authority, where and how the more important changes and improvements in the physical layout of the city are to be made - a plan to be completed and put on file and followed more or less faithfully and mechanically, much as a contractor follows the architect's drawings for a house. We must cultivate in our own minds and in the mind of the people the conception of a city plan as a device or piece of administration machinery for preparing, and keeping constantly up to date, a unified forecast and definition of all the important changes, additions and extensions of the physical equipment and arrangement of the city which a sound judgment holds likely to become desirable and practicable in the course of time, so as to avoid so far as possible both ignorantly wasteful action

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and ignorantly wasteful inaction in the control of the city's physical growth. It is not a means by which one group of men or one generation may dictate to their successors or relieve the latter of responsibility. It is a means by which those who become at any time responsible for decisions affecting the city's plan may be prevented from acting in ignorance of what their predecessors and their colleagues in other departments of city life, have believed to be the reasonable contingencies. With the general conception of city planning in mind we are to enter upon a series of discussions at this conference, not with any expectation of covering the whole field, but in the hope of doing a little exploration together here and there in rather widely separated parts of that field.

THE MUNICIPAL REAL ESTATE POLICIES OF GERMAN CITIES

Hon. Frederick C. Howe New York City

Town planning in Germany is characterized by a comprehensive unity fully in keeping with the scientific character of the nation. Nothing is haphazard, nothing is left to chance, nothing is omitted from the calculations. Analysis of all the elements controlling the city and its proper planning precedes constructive work. It is this frank investigation of every influence affecting municipal life that distinguishes the town planning movement in Germany from that of America. In this country the city planning movement is thus far ineffectual to produce permanent and fundamental change because of our unwillingness to face the controlling influences of transportation, the unchecked license of the landowner, the unrestrained freedom of property in all its forms. Thus far, city planning in America has limited its vision to those sides of the question which do not conflict with the claims or abuses of private property.

This fundamental difference between the German city and our own is most plainly seen in the laws and municipal ordinances of the two countries relating to land. In Germany the city is sovereign. It controls the landowner and the builder in the interest of the community. The rights of the community are superior to the rights of any individual, and the health, convenience, comfort and well-being of all the people are superior to and must control the rights of the landowner or the speculator. In America

on the other hand, the city is almost helpless. It has very limited powers and these are specially granted - usually after it is too late for them to be of value. Rights of eminent domain are strictly construed against the city and must be exercised with great care. Excess condemnation. in order that the city may acquire some of the profits accruing from its own improvement is denied, as is the acquisition of land for any other than enumerated things. The right of special assessments for benefits conferred is carefully prescribed by statute, varies greatly in different communities and leaves but little discretion to the cities. The individual can lay out streets of such width as he wills. He can sewer them and pave them, build them up with cheap tenements or skyscraping apartments and the city cannot successfully protest. In the face of all our knowledge of the vice, crime and disease which the tenement produces, old conditions in our larger cities are certainly reproducing themselves and the cities are helpless to prevent it.

In Germany the city is as sovereign over the property within its limits as it is over the people. It can regulate both by municipal ordinances. Its powers are ample. It enjoys nearly complete home rule. In America, on the other hand, the city is in chains to the state legislature, the real estate interests, and the franchise corporation. It has the most limited powers of city building, has little autonomy, and is so cramped, cabined, and confined with restrictions that its powers are of little value.

The German city predicates town planning on a thorough control of the land within its limits. It treats the land as the foundation of municipality, just as does the architect when he erects an office building. City planning is fundamentally a land question. We can see this in Washington, where the city was originally designed by Major L'Enfant and President Washington in an unbroken country. The beauty of the city is attributable to the generous provision for streets, avenues, open spaces and

sites for public buildings. Its commanding beauty is due to the free hand enjoyed by its designers in the control of the land.

The German city controls the land within its limits in a variety of ways. It fully recognizes the importance of its foundations. The principal methods of regulation are the following:

I. Street Building and Planning.

In the decades which immediately followed the Franco-Prussian war, the German city followed the rectangular gridiron type of streets so universal in America because this street plan was satisfactory to the land speculators. This period of city building in Germany presents the same monotonous suburban sections as are to be found in this country. A revolt arose against this type of streets in the closing years of the nineteenth century when street planning assumed the importance it deserves. To-day every city has a street plan as has Washington, D. C., mapped in the city hall far in advance of the city's present growth. All street construction work is done by the city directly with its own engineer, landscape artists, and contractors. A large area is undertaken at once. thus decreasing the cost, and enabling it to be done in a symmetrical way. To these plans the private owner must acquiesce. He is not permitted to lay out his own streets, to pave or sewer them or control their width or character. Broad radial avenues or boulevards in conformity with the original city plan run through every new section. These streets vary from one hundred to two hundred feet in width. They are parked and beautified, and serve as a recreation and promenade way. Side streets are of ample width and are designed to harmonize with the city plan. The cost of such development is first paid for by the city, but is assessed back upon the property benefited according to established rules. A considerable time is permitted within which the assessments can be paid by the owner, the cost

being carried by the city at a low rate of interest. Thus the suburban developments of German cities are harmonious, beautiful, and suited to the needs of the city. Slum areas are forever precluded, while great economy in cost is secured through the permanency of the construction. At the same time, the landowner is protected from his irresponsible neighbor, who often disfigures an entire territory by jerry construction and speculative indifference to the rights of the adjoining community. The landowner is required to dedicate a certain percentage of his holdings for streets and open spaces and the city is authorized to take from thirty to forty per cent without compensation. The assumption is that the development work enhances the value of the adjoining property sufficiently to pay for the street development as well as the area dedicated to public uses.

II. The Zone System.

German cities are divided into building zones, in each of which the height of buildings and the amount of land which may be covered by improvements is strictly prescribed. These building zones are like the fire zones of our cities, but are prescribed to prevent congestion and the reappearance of the tenement slum. They are hygienic regulations insuring beauty as well as proper sanitation. A larger area can be covered by structures in the business section than in the outlying zones, the percentage being determined by the uses to which the land would naturally be put. In Frankfort, in the inner city, buildings may cover from one-half to five-sixths of a lot and have a maximum height of sixty-five feet and six inches. Usually they are limited in height to the width of the street upon which they front. In the inner zone, the residence section, buildings must have a minimum space between them of nineteen and one-half feet, a maximum height of fifty-nine feet and a maximum number of stories of three above the ground story. In the outer zone of the residence section, buildings must have a minimum space between them of twenty-six feet, a maxi-

mum height of sixty-eight feet, a maximum number of stories of two above the ground story and may not exceed the width of the street. On certain streets only one- or twostory houses are permitted.

In Cologne, the yard area which may be occupied ranges from twenty-five to sixty per cent, depending upon the location of the lots, the maximum of sixty per cent being allowed in the business districts. These building regulations preclude the reappearance of tenement conditions and insure beautiful and harmonious development with a uniform sky line in each zone of the city.

III. Industrial Sections.

Within certain limits municipalities control the nature of suburban development. Factories which in any way offend the neighborhood in which they are located may be required to move to the suburbs, on the general theory that a man must so use his property that it does not interfere with a like use on the part of his neighbor. Municipal by-laws also control the factory and industrial areas. This is done by the building regulations referred to above, as well as by the natural proximity to railways, docks, and harbors. The territory immediately adjoining the railways is dedicated to industrial uses, and factories are required in many cities to locate on that side of the city away from the prevailing winds. This reduces the smoke nuisance to a minimum. These regulations are not made arbitrarily, but are fixed by obvious conditions. In territory surrounding an industrial area house-building regulations are adjusted to workingmen's homes, as are the street plans.

IV. Land Ownership.

The German city has always been a landlord on a large scale. From earliest times German villages have owned forests and other land in common, and have used it for the gathering of fuel, for forestry and agriculture. With

this heritage of tradition, the transition was easy into the ownership of municipal land, and German cities are buying, holding, and selling land the same as private individuals. Berlin, for instance, owns land to the extent of 240.8% of its total area, including the land held outside of its boundaries. Frankfort, a city of 335,000 population, owns 48.9% of the land within its limits; Mannheim owns 35.4% of its own land, and Hanover 37.7% of the land within its limits. The total amount of land within and without a number of German cities is given in the table below:

	Total area	Total amount of land owned by	PROPORTION OF TOTAL CITY AREA	
	of city	city	Within city boundary	Without city boundary
	Acres	Acres	Per cent	Per cent
Berlin	15,689.54	39,151.28	9.2	240.8
Munich	21,290.24	13,597.02	23.7	37.8
Leipzig	14,095.25	8,406.84	32.3	27.4
Strassburg	19,345.45	11,866.98	33. 2	28.1
Hanover	9,677.25	5,674.90	37.7	20.4
Schoneberg	2,338.60	1,633.33	4.2	65.1
Spandau	10,470.37	4,480.79	3.05	42.9
Zurich	10,894.64	5,621.52	26.0	25.9
Vienna	67,477.57	32,062.48	13.4	54.8

Much of the land so owned is in streets, open spaces and parks, but very large areas are also owned and rented or held for speculative purposes.

Cities anticipate their future needs in a far-sighted intelligent way. Before a new territory is opened up for residence, the city authorities acquire land for playgrounds, gardens, and sites for schoolhouses and other public buildings. The purchase of these lands, far in advance of the city's growth, saves the city from prohibitive prices and the necessity of cramping the sites of public buildings. It also makes possible the most generous provision for recreation and open spaces, and in the new suburbs of German cities, playgrounds and gardens of the greatest variety are found within easy walking distance of almost every home.

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This policy of land acquisition is but part of the farsighted outlook on ordinary city growth, and is defended on the grounds of ultimate economy as well as on those of proper city building. Only by this policy it is possible to provide adequately for the orderly and harmonious development of the city.

V. Excess Condemnation.

Increasing land values are made to pay the cost of many municipal undertakings. Within the last ten years the Rhine cities like Duisburg, Dusseldorf, Cologne, and Frankfort have carried through immense harbor projects, by means of which the water traffic of these cities has been greatly increased, and the industrial development of the Rhine region rapidly stimulated. These municipal harbors are equipped with the most perfect mechanical devices for the loading and unloading of boats, the trans-shipment of freight of steam railroads, and the warehousing of various kinds of products at the minimum of expense. The whole undertaking is planned as a unity rather than an isolated project; the harbors, railways and warehouses being constructed by the city with a single object in view of inexpensive and expeditious handling of freight. Probably the most ambitious harbor undertaking on the Rhine is that of Frankfort. This city of three hundred and thirty-five thousand inhabitants has never been a water port, being twenty miles from the Rhine River on the Main, which was not navigable. This stream was dredged and Frankfort made accessible to the Rhine traffic. It soon outgrew its harbor facilities, and a few years ago a dock improvement undertaking was projected, which has cost to date nearly fourteen million dollars. Eleven hundred and eighty acres of land were originally equipped, one-fourth of which was laid out in embankments and street railway approaches. One hundred and ten acres were converted into water basin with a navigable shore line nine miles in length. The docks were connected with thirty-five miles of railway tracks and sidings,

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so as to secure the best of transportation facilities. This was an ambitious undertaking for a city of this size in competition with other towns having ample water accommodations. The preliminary undertaking of the city increased the water traffic twelve hundred per cent in a few years' time. The second-rate harbor, costing over thirteen million dollars, will be paid for in large part by the re-sale of surplus land remaining after the docks had been completed. Over eight hundred acres remain for factory sites. warehouses and workingmen's dwellings, which is being sold or leased on a basis sufficient to pay for the entire undertaking in a few years' time. The location of the intelligent building of an industrial section increased the value of the land to such an extent that it enabled the city to recompense itself for the entire outlay. Other undertakings, like the opening of new thoroughfares through old districts, are paid for in the same way. The city acquires more land than is needed for street widening, and when the project is completed, it leases or sells the excess land, retaining the profit therefor itself. American cities are not permitted to recoup themselves in this way. The results of their activities and expenditures flow into the pockets of the abutting landlords. A monster proposal, containing eighty thousand names, has been presented to the Prussian Diet, urging that when the new Weser Canal is constructed the State should acquire land for a half mile on either side of the right of way, to be held by it and used for factory development in such a way as to pay for the cost of the undertaking. Denmark has recently passed a law for the construction of new railways, which provides that the increased land values resulting therefrom shall be taken up to one-third of the increment by the government as compensation for the benefits accruing to the adjoining owners.

VI. Riparian Land.

German cities own without question every piece of land abutting upon a harbor, river, or other water-way. The right

of access to the water is jealously guarded as though it were an absolute right of the whole community. Private individuals are not permitted to own, much less monopolize. that which is essential to the industrial life of the community, as well as the convenience and recreation of the Non-navigable waters are reserves for pleasure and recreation, while navigable streams are developed by municipal docks and state encouragement in every possible way. Germany's industrial development is largely due to the intelligent far-sighted appreciation of the fact that water-ways are of no value unless the wharf and harbor rights are open and accessible to all. Her internal waterway policies are in marked contrast to those in the United States, where hundreds of millions have been spent on harbor improvements without inquiry as to the riparian ownership, which on the Great Lakes, at least, has fallen almost wholly in the hands of the railroads, which refuse to develop or permit the land to be developed for dockage purposes.

VII. Cities as House Landlords.

Germany has adopted a housing program of municipal competition through the building and ownership of model tenements and suburban villas. Through this means competition with private owners is secured, while the houses are paid for by rents merely sufficient to cover the cost and interest charges.

The city of Ulm has carried through the most comprehensive housing policy. Fourteen hundred acres of land were purchased in the suburbs, upon which the city erected detached workingmen's dwellings of an attractive type. These dwellings are sold to owners, payments being made under long-time contracts and in payments just sufficient to reimburse the city for its cost and interest charges. Restrictions are placed upon the purchasers requiring the assent of the city to any transfer and holding the purchaser to a few simple and obviously necessary regulations.

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Up to date nearly one-third of the population of Ulm have been housed by the city directly in this way.

Another policy adopted by the cities for correcting the housing problem is through encouragement and financial contribution to co-operative apartment houses, built partly by contributions of private capital, partly by loans at a very low rate of interest from the state insurance funds, partly by subscriptions from the city, and partly by installment payments from workingmen themselves. These houses are constructed so as to insure the best of sanitary surroundings, health, and cleanliness, and provide in addition to the house proper, co-operative libraries, restaurants, kindergartens, and inner playgrounds and rest places for the people. This co-operative movement is being rapidly promoted by the cities and the government.

Germany has decided that the housing question is too important a problem to be left to the free play of capitalistic exploitation, and is beginning to substitute the municipal dwelling in competition with that of the private owner.

VIII. Experiments in the Taxation of the Unearned Increment.

Municipal experts of Germany are united in recognizing the efficiency of taxation as a means of discouraging land speculation, of promoting house building, and of reducing the burden of local taxation. Prior to 1893, local real estate taxes in Germany were assessed against the actual rental value of property, according to the English rating system. Land in the suburbs of a city might be used as a cabbage patch. Its rental value for taxation was that of a cabbage patch rather than of a building site. In 1893, the Interior Department issued an order enabling municipalities to assess land according to its selling value, as is done in the United States. Local authorities immediately took advantage of the authorization. Within a few years three hundred and fifty communities had made the change in the face of the hostility of speculators and large landowners. The reve-

nues of these cities increased enormously. More than this, it made possible the taxation of unearned increments inaugurated by the city of Frankfort in 1904. The new tax is termed "Wertzuwachssteuer," or tax upon the increment of value. This is not the single tax, although it partakes of the justice of this proposal in appropriating a portion of the social value given to land by the growth of population. Under the ordinances of Frankfort (and the ordinances, methods, and rates of taxation in the cities differ widely), a tax of two per cent is levied on the increase in value between sales of property if the increase between such sales amounts to from fifteen to twenty per cent. From this tax of two per cent it increases up to twenty-five per cent of the profits gained by the seller if such profits amount to between fifty-five and sixty per cent. If the land does not change hands, a re-valuation is held just the same, and the tax is imposed upon any increase which has taken place.

Improved land is taxed less heavily than unimproved land. This tax has spread very rapidly to other cities and is

yielding a very substantial return.

In the spring of this year the German Parliament, recognizing the obvious justice of this measure, adopted a bill unifying the unearned increment tax of the cities and appropriating a portion of its yield to imperial and state The local ordinances of the various cities are repealed by this act. Under this bill the revenue of the Imperial Government is estimated at six million dollars per annum, which is approximately one-half of the total yield. Ten per cent goes to the several states of the empire and forty per cent is retained by the cities. Municipalities are authorized to increase the rate of federal taxation and retain the excess return in their local treasuries. Under this new Imperial bill, ten per cent of the land speculators' profits are taken if the increase in value amounts to ten per cent of the value of the property. From this it rises to a rate of thirty per cent of the profits where the increase in value amounts to forty per cent or more.

Municipal authorities assert that the unearned increment tax has a tendency to discourage land speculation. The burden of the tax leads to the sale and development of property and the lower rate on improved property discourages speculation still more. In addition to this, it yields a very substantial revenue; the city of Hamburg collecting eight hundred thousand from this source last year.

This German experiment has been widely heralded in this country, and proposals have been put forward for the taxation of unearned increment, according to the German method. We have already, however, a much more efficient means of reaching increasing land values and a much more effective method of discouraging speculation and of forcing land into use. Up to very recently, Germany had no experience in valuing land at its capital value, — the system which obtains in this country. In taxing property they adopted a method more in harmony with their system and traditions of local taxation. In America land values are assessed in all our states each year, every other year, or at most, every fourth year. The cities of New York, Boston, and some other communities separate land values from improvement values in making their assessments. These cities, better than any other, show in the tax returns the increase in land values, and open up to calculation the fund available for taxation. Cleveland re-valued its real property in 1910, and discovered that in ten years' time land values had increased by \$177,000,000. During the same period population had increased by 172,000. The increase in land values amounted to \$1,000 per capita. The reports from other cities indicate that this proportion obtains pretty generally in growing cities.

This source of revenue can be easily tapped by abandoning the taxation of improvements and personalty and permitting the whole burden of local taxation to fall upon land values. This can be achieved in some states by a simple act of the legislature; in others by constitutional amend-

ment. The result would be to increase the tax on land values and correspondingly augment the revenues of the communities from this source.

This is the method employed in the cities of Western Canada, and especially in Vancouver. In the latter city improved values were reduced by twenty-five per cent in the first instance; by fifty per cent in the second, then to twenty-five per cent, and finally, taxes on houses and improvements were abolished altogether. All of the direct revenues of this city are now being collected from a tax on land values.

The result of this shifting of taxation is perfectly obvious. It encourages building operations and stimulates the use of land. It becomes too costly to hold land idle. The result is an encouragement to building and the beautification of structures. There is no fear in the minds of the owner of being penalized for improvements. Further than this, speculation is discouraged. If the tax is high enough, it is made impossible. The burden of taxation is so heavy that land can no longer be held out of use. When the taxes increase to this point, land values begin to depreciate rather than constantly to appreciate, which opens up sites for building, for homes and for development. It is conceivable that with the tax increased sufficiently, private land values will disappear altogether, for the city will have appropriated the entire rental value in taxation. method, suggested in part by the Committee on Congestion in New York City, which proposed reducing the taxation on improvements to one-half that on land values, is infinitely preferable to the German system, for it not only will yield adequate revenues, but it imposes a permanent burden upon land speculation and gives a continuous stimulus to improvements.

THE BRITISH POINT OF VIEW

Mr. THOMAS ADAMS

Local Government Board. London

Before entering upon the discussion of this afternoon, I should like to make one or two observations, on my own behalf, in expressing the pleasure it gives me as a British citizen to be present here at this American gathering, and to take part in discussing this great town planning movement. It is, as the mayor has said, a world-wide movement, which is finding its expression in many activities among the English-speaking peoples on both sides of the Atlantic.

Those of us who have come from Britain have reason to appreciate the friendly reception given to us in the one or two American cities which we have visited. The men connected with the corporate life of these cities have shown themselves most willing to bring us in touch with their municipal activities, not only the "show window" part of these activities, but also those which may be described as "behind the scenes": not only those which indicate what you propose doing in the way of establishing beautiful civic centers and fine park systems, but also those which show that you have with you in your great cities in the United States, as we have in Britain, the slum problem, the problem of the housing of the very poor.

May I also express my congratulations to this great city for housing the town planning exhibition, for receiving this conference, and for the excellence of the organization by which they have prepared the way for this great meeting?

And now I have the honor to convey to you a message from the President of the Local Government Board in

England. Mr. Burns regrets his inability to come to this meeting. He wished me to say that he appreciates what you are doing in America and desires to encourage you not only to look after your civic centers, not only to proceed with the work you are already doing in promoting extensive park systems in connection with your cities, but also to remember that in Great Britain we continue to make it one of our chief objects in town planning to maintain and extend the healthy detached home life of our people, and to promote the principles underlying the model Garden Suburb and Garden City which have deservedly called forth the appreciation of many of your citizens.

In a speech delivered by Mr. Burns in the Guildhall in the city of London at the opening of the British Town

Planning Conference, he said:

"I do not think that the effect of good environment, of fine buildings, of pleasant homes, upon the character, temperament, will, disposition, and energy of the people suffi-

ciently dawns upon the average citizen.

"... The depth and breadth of English law - the respect that it evokes in every country of the world — is in no small measure due to the spacious serenity of its Inns of Court, its old halls, and the old-world dignity of its schools, colleges, and meeting-places. Those venerable and beautiful buildings are not mere structures of brick and stone: cities are not only emporiums for goods, centers of commerce and trade; they are something more than a mere cash nexus; they are places where utility, comfort, and beauty can be and ought to be combined, so that the passerby can, from what he sees, feel something to which his sense of beauty and of domestic comfort can respond all the better for having lived in and seen beautiful buildings every day of his life, places which by their beauty, their amenity, their grace, and, above all, their greenery, create a joy in life which we Britons sometimes lack, and give a spacious leisure in idle moments, when study wants a respite and honest labor requires a pleasant rest.

- "... So long as casual labor broods in squalid lairs, in sunless streets, and ugly dwellings are its only habitation, we shall continue to turn out nervous mannikins instead of enduring men. Motherhood, childhood, youth, society, and the race demand the demolition of the soul-destroying slum... The mean street produces the mean men, the lean and tired women, and the unclean children.
- "... Plan the town, if you like; but in doing it do not forget that you have got to spread the people... Make wider roads, but do not narrow the tenements behind. Dignify the city by all means, but not at the expense of the health of the home and the family life and the comfort of the average workman and citizen... If you do this, we all of us shall be rewarded by the betterment of our towns, the beautification of our streets, the improvement of our suburbs; we shall have made one step forward to still further elevating, improving, and dignifying the life of our citizens."

I am also pleased and honored to convey to you as a result of a short personal interview I had with our British Ambassador in Washington, his hearty good wishes to this conference, his desire that it should be a great success, and his hope that it will stimulate greater interest in city planning in this country. I may add that Mr. Bryce was one of the first men who recognized the value of the city planning movement in England and its power to inaugurate better social conditions in that country: at a time, too, when it was scarcely possible to obtain any public support because of the idea that we were all living in the air and dreaming of beautiful ideals which were impossible of realization.

With regard to the subject of discussion this afternoon, I wish to speak with reference to our British conditions, rather than to criticise the paper which has been read, or to emphasize any points regarding which I am in agreement with the sentiments contained in that paper. On the whole I agree with Mr. Howe: yet, as a result of some

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study of German conditions, I think I might claim as a Briton the privilege of saving that this country has not so very much to learn from Germany, in spite of all it has to show you. You are proceeding on lines which I think in a very few years will produce as tangible and as fruitful results as those which have so far been produced in Germany, except in the one particular which was emphasized by Mr. Howe - that you have not yet realized the value of acquiring land for municipal purposes; of obtaining large tracts of land outside of your developed areas for future development. But in regard to wide streets, in regard to parks, open spaces, and in other matters, I think you are to be commended for the public spirit which you are showing, and Mr. Howe, as an American, seems, as is natural, to be unduly modest of his own country's doings.

If there is a direction in which you in America seem to me, as a hurried visitor, to be somewhat lacking, it is in the particular direction which is covered by our British Town Planning Act. I find that there is in this country a spirit of individual liberty which is not to be despised, but which sometimes runs away with itself.

The liberty of one individual is allowed, here and there, to infringe slightly on the liberty of another, and particularly there seems to be occasional serious encroachment of individual liberty on the liberty of the community as a whole.

To me there is one essential condition of all liberty: there is no liberty which is worth prizing which interferes with the right of man to obtain shelter, to obtain a home; and this is a right which every one of us, however poor, however humble, however mean, is entitled to.

Whatever regard, then, you may have for the rights of the real estate owner it must, in my opinion, be secondary to that first condition that every citizen should have the opportunity of obtaining a healthy home within the limits of his means. I admit there are many things which seem

to create greater difficulties for you than we have in England. You have a variety of constitutions overspreading this great land of yours; you have a variety of interpretations of these different constitutions in every state; you have a variety of judges exercising prejudiced and unprejudiced minds in expounding the virtue of this or that interpretation of your laws: and my trip to this country, and the consultations I have had with well-informed citizens have left me in utter perplexity as to what method you could pursue to introduce town planning legislation amidst such constitutional difficulties. Therefore I am unable, although I tried very hard, to come to you with any suggestions. I must therefore confine myself to a brief description of what we are doing in England, and hope that it will suggest certain principles on which you can act when you discover the best means of overcoming the difficulties which confront you in reference to your constitutional questions.

Our town planning act in England has for its object the securing of amenity, convenience, and better sanitation, - in regard to all land that is unbuilt upon or is in course of development. Now, I want to direct your attention to the great distinction there is between the object of that act and the land to which it applies, as compared with the objects of city planning as they are often understood here and in Germany. City planning is comprehensive enough to cover all civic improvements; but in our own particular case we have come to realize that the most immediate and most practical task is to deal with the land in our suburbs where we can prevent the growth of the evils that have already developed in the centers. We must continue to conceive and carry out reconstruction schemes in the centers of population, but that can only be done by a slow process of evolution, and as we succeed in overcoming the prejudices of the rate-payers. On the other hand, the control of new development, i. e. the prevention of the necessity of reconstruction schemes in the future, and the

proper planning of new areas can be carried out at trifling cost, and probably with an ultimate saving to the rate-payers. Therefore the town planning act in Britain provides that land that is in course of development or land that has not yet been developed may be developed so as to secure amenity, convenience, and proper sanitation. As a rule the act can only be put into force on the initiative of a local authority or owner, and it is hoped and expected that it will in time be applied to all unbuilt-upon areas.

Now, let me try to point out to you what that means. There are some people who say: But you should have had these powers fifty years ago to do any good: it is too late now. You Americans will not say that, because you believe that your cities are going to double themselves every ten or twenty years. But even in Great Britain, where our cities may be of somewhat slower growth, the answer is that every fifteen years, according to a statement of the President of the Local Government Board, five hundred thousand acres of land are covered with houses, factories, workshops, and other buildings. Now, that is a very important fact. Here is a town planning act which says that in the United Kingdom the authorities may secure that every fifteen years we shall have five hundred thousand acres of land town planned. The area would be very much larger if we include land that "is likely to be developed," as well as land "in course of development."

That shows you that the act has enormous scope and possibility.

Moreover, in Greater London alone during the last thirty years we have built five hundred and fifty thousand houses on land which in the past has not been regulated by any town planning act.

Now, what does the town planning act propose to do? First of all, the initiative will usually rest with the local authority, whether city, or urban, or rural district. If Philadelphia happened to be a city in the United Kingdom, it would have to come to the Local Government Board in

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order to get a loan to build a public hall, or lay a sewer, or carry on some of those public activities which at present it can do on its own responsibility. The board would have to make inquiries as to whether the scheme proposed was satisfactory in its technical details and the expenditure judicious. Similar powers of supervision are exercised by the board over town planning. If a city such as this decided to apply for permission to prepare a town planning scheme, a public inquiry would be held into that application; and one object of that inquiry would be to try to harmonize the often conflicting interests of the real estate owner and the municipal authority as well as the conflicting interests of two adjacent authorities. I have said that this will appeal to you, for I have already been made to realize that authorities in this country are not altogether free from jealousy - or let me rather call it, friendly rivalry. For instance, I have had the pleasure of expressing some appreciation of one or two of your institutions since I came to your country; and I happened to mention in one city that I had seen something in another city which was very fine, with the result that I had conferred upon me the distinction of being a "booster," which I suppose indicates that I have become a sort of advocate of the claims of one city against another.

The question of the co-operation, first of all, between the authorities and the real estate owner, and, secondly, between two adjacent authorities, is very important; and provision for this co-operation is made in the town planning act. Co-operation of this kind is very difficult; because it usually means a sort of compromise in which one side gets the best of the bargain.

At Baltimore, apparently, the Roland Park Company voluntarily town-planned their estate and laid it out on lines satisfactory to the authority; which suggests that, so far as the land values were concerned, the company found it worth while to lay out their estate on model lines and subject to restrictions. We have discovered that the owner

gains by proper planning in England, and I am sure you will go on discovering it here. It had been stated to me over and over again that you could not get an owner of land in this country to submit to any restriction of his claim to use his land as he chooses. Well, at Roland Park they submit to the character of the fences being prescribed for them; they submit to their plans having to go before an architect; they submit to a number of restrictions that you might call arbitrary; and these people who do so are able to pay four thousand and five thousand dollars per plot and build houses from ten thousand to twenty thousand dollars apiece. They are the very people who could afford to say " I am not going to have any one interfere with how I am going to lay out my land or how I am going to deal with the trees, or the fences, or how I am going to build my house": if you once have it established that this class of owner is prepared to submit to regulations in the interest of the general community, then you could surely find a practical way to enforce the same principles in regard to the poorer grades of owners and tenants who have not the same power or desire to object. Therefore it follows that you could apply town planning restrictions in this country as easily as we can in Britain without injury to your love of individual liberty. which I assure you we appreciate as much as you do. We have all, of course, to begin by recognizing that our claim to liberty is not a claim to interfere with the liberty of others.

Under the British Act, the owner is allowed to claim compensation for any injury suffered by his property as the result of the town planning scheme; and the authority may claim betterment for any value which accrues to his land as the result of the scheme,—that betterment being half of the value which accrues; so that you see you have the operation of what you call "excess condemnation" on the one hand, and "benefit" on the other. You pay him compensation for what injury he receives, and you secure

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half of the benefit which his property derives. But observe this important provision: once the local authority submits its application to the Local Government Board for the right to prepare a scheme, no real estate operator, no individual owner, can enter into any contract or deal with that land in any way which contravenes the scheme, and there-

after claim compensation.

By this means you stop undesirable development as soon as you have carried out the preliminary steps to have your land town-planned; and you stop what might be called bogus claims for compensation. Moreover, no claim for compensation can be made on the ground that the authority wants to limit the number of houses per acre so long as the Local Government Board is satisfied that the limitation is reasonable in the interests of public health. Birmingham, as large a city as Philadelphia, and a manufacturing town similar in many respects to Philadelphia - Birmingham has applied for authority to prepare schemes for over three thousand acres of land, and in both of the areas affected it desires to limit the houses to be erected on each acre to something between ten and fifteen over the whole area. I think, even in Philadelphia, with your very admirable system of two-story houses, you have as many as seventy-five houses on the acre, and whether or not Birmingham succeeds in its application, it will probably secure sufficient limitation to leave ample margin for improvement in this city as compared with what is an average English city.

The act also provides for the control of the character of the buildings to be erected. It may allow areas to be defined for certain purposes, such as that a certain portion shall be manufacturing, or that another portion shall be residential, subject, of course, to provisions regarding com-

pensation to owners.

That is a brief description of some of our new powers in Britain, and at this stage I shall not weary you with further details. But, I just want to say another word regarding the question of co-operation between the owner

and the municipality. Baltimore is one American city which has created a wide boulevard as the result of cooperation with the owners. I was informed that the University Parkway, one hundred and twenty feet wide, was made as a result of an arrangement by which the city authorities constructed the road, and the owner gave the land for the purpose. You see, you have already got in operation one of the main principles which lies at the basis of the British Town Planning Act. The difference in the housing conditions in your country and our country are very great; and the fact that in some of your cities you have become so wedded to the tenement system, is also a matter of serious difficulty; but here in Philadelphia you can deal with the problem more easily than they can do elsewhere. Whereas in New York the sky-scraper appears to be inevitable, here there is no excuse for it. You have an unlimited field for expansion outwards, and you have a people habituated to the cottage type of dwelling. You should therefore apply yourselves to the problem of controlling your suburbs and the height of all your buildings.

Finally, this problem is one which is not to be sneered at because it happens to interfere with the rights of those individuals whose sole object in owning land is to make money out of it. We must protect those rights; because it is necessary for the general well-being and commercial prosperity of the country; but it is neither in the private nor public interest that they should be allowed to interfere with the right of each man, each woman, and each child to secure the decencies and necessities of shelter, or even to interfere with that desirable wedlock with nature, - divorce from which eventually brings about corruption and ruin to the nation that encourages it. It has been authoritatively stated that in England fifty per cent of our total pauperism, more than sixty per cent of the cost of providing for that pauperism, much lunacy, and a great deal of our crime, is due to sickness; and a great part of that sickness is brought about by the conditions in which the people live.

In other words, there is nothing more costly than bad housing conditions, and to improve these conditions is to effect an enormous saving to the public purse to which we all contribute. If you don't give your attention to these matters, then so long as you don't, the physique of your race, its intellectual caliber, its moral strength, will be lowered and weakened; you will lose the very qualities that have built up the strength of this great nation, as well as that which helped to give it birth. But if, as I believe you will, if you realize your responsibilities and do your duty, the power of this country of yours as a factor in the progress of civilization will be largely increased and made still more manifest in the future than in the past.

THE POINT OF VIEW OF THE NEW YORK COMMITTEE ON CONGESTION OF POPULATION

Mr. George B. Ford

Member of the Committee. New York City

In the light of the remarks that the chairman has made about the fact that this series of conferences on city planning was started largely by the Committee on Congestion of Population in New York City, it is interesting to see what that committee is doing along the line of city planning today, and particularly with reference to the question of municipal real estate policies. This committee has been chiefly instrumental in forming in New York City a City Commission on Congestion of Population which should study the social and economic aspects of the city's life and growth — a study which is a most interesting and important preliminary step toward a city plan. This commission was appointed by the mayor about a year ago, and consists of nine members of the board of aldermen and eight laymen, - lawyers, real estate men, and men interested in every phase of civic development. After a number of hearings, lasting through twelve months, the report embodying their findings was published in March, and consisted of some five hundred pages. As a result of these findings the commission drew up twenty-nine bills and ordinances for legislation either before the state legislature or the city legislative body.

Of these, seven bills have been presented at Albany, and of these seven, three relate particularly to the question of municipal real estate policies. The first is intended to change

the apportioning of the tax on real estate by levying it not equally on improvements and on land, but by taxing the improvements only one-half as much as the unimproved land. Testimony from the cities of Australia, New Zealand, certain cities of Germany and the western cities of Canada was to the effect that this departure was uniformly successful. The companion bill provided that in administering this new tax system instead of the tax rate on land being increased fifty per cent in one year it should be increased ten per cent each year for five years; in the same way, the tax on improved land would be decreased ten per cent each year for five years, thereby making twenty per cent difference each year.

Another bill, also affecting municipal real estate policies and approximating in a slight degree the zone system of Germany, provides that all buildings used as tenements in Greater New York, except below One Hundred Eighty-first Street in Manhattan, should not exceed four stories in height. This divides New York into two zones, with One Hundred Eighty-first Street as the separating line. As the principle is new in America, experience is needed to determine its effectiveness.

The Congestion Committee has further affected the municipal real estate policy of New York by being instrumental in the forming of a special committee of the Board of Estimate and Apportionment to consider the question of new methods of obtaining revenue. There will be plenty of work for this committee in analyzing the policies of German and English cities in this regard and considering their applicability to New York conditions.

The general discussion was participated in by Mayor William A. Magee, Pittsburg, Pa.; Mayor Emil Seidel, Milwaukee, Wis.; Mayor Louis Gerhart, Terre Haute, Ind.; Mr. Henry Read, President, Board of Public Works, Denver, Col.; Meyer Lissner, Esq., Chairman of the Board of Public Utilities, Los Angeles, Cal.

The chief point brought out was that in distributing the immense cost of city planning and re-planning, purely local improvements should be paid for by assessing the benefits over a local improvement district. This assessment would amount practically to a tax upon the increment in real estate values caused by the improvement. This method has already been adopted in several American cities - notably Denver, where practically all local improvements are initiated on petition, and the initial cost is entirely paid for by the petitioners. In the year 1910, local improvements amounting to three million, five hundred thousand dollars were borne by improvement districts. reason, among others, the total debt of the city of Denver does not reach one million dollars, although the cash valuation of the city is probably in the neighborhood of three hundred million dollars. The power of boards of public works to stop improvements is limited to the question whether it considers such improvements good and sufficient for the locality named. Testimony was that the great trouble in Denver had been to keep under control improvements which were considered a little ahead of the locality.

SUMMARY

HON. FREDERICK C. HOWE:

Replying to the question as to the power of each state over taxation, I should say that that question depends wholly on the constitution of the individual state. I imagine that in Pennsylvania any kind of tax could be adopted, so long as the rate was uniform on the kind of property covered by the tax. If the tax were levied on land values, the rate would have to be uniform on all land values. If levied on increment, the rate would have to be uniform on increment.

In Ohio the only way that we can tax land values is to amend the constitution. This is true in seventy per cent of our cities. The general property tax precludes everything except special assessments, but we can go some distance with special assessments.

Replying to the question, "Who really pays the bills of city planning?" the beauty of the thing to me is that it pays its own way. Kansas City was blocked by a court decision from issuing any bonds against a general development. It proceeded to build one of the best systems of parks in the country at the cost of ten million dollars entirely by special assessment. The figures of this special assessment show that only twenty to thirty per cent of the increased value given to the land by virtue of the improvements was taken to pay the cost. It is clear that this improvement cost the general taxpayers nothing, and the abutting owners only twenty to thirty per cent of the value which was given to them. So great an increase of value came to the Bronx land by subway construction that it is now suggested to assess the cost of subways against such enhanced value. The Boston Back Bay district cost originally seven million dollars. It was sold by the State at a profit, and to-day is assessed about one hundred million dollars, or thirty-three times the original cost. The Ringstrasse at Vienna, probably the most magnificent in the world, was laid out on the site of the old fortifications. The adjoining land was later sold by the city, and the entire park development, including the building of the opera house, municipal buildings, and art gallery, was paid for out of the enhanced value of the land. I believe that every permanent improvement in a growing city, whether it be docks, street railways, parks, public buildings, or new streets, should be paid for by special assessments against the district benefited.

PUBLIC BUILDINGS

MR. ERNEST FLAGG Architect. New York City

In dealing with the plans of cities, the placing of public buildings and the re-arrangement of streets, one seldom finds ideal conditions. Cities are seldom made out of whole cloth; a case like that of Washington does not occur once in a century. They start from small beginnings and by the time they are large enough to require important public buildings their habits are formed and changes can only be made with difficulty and at great expense.

City plans in this country can generally be classed under two heads: those which are of accidental origin and those which are of commercial origin. Neither type lends itself well to an artistic grouping of public buildings or, as it is called, the establishment of civic centers.

If the city is old, the streets are apt to be narrow and crooked. If it is new, the plan expresses no higher aim than the desire to obtain the greatest possible number of city lots to a given area. In either case the open spaces are few in number and of small area.

At the center all the desirable sites are occupied and land is expensive; in such localities it is almost impossible to re-arrange the streets so as to provide a suitable setting for a group of public buildings.

American cities of to-day are unlike any others of the past, and public buildings intended for them should be considered in view of this fact. Rules which apply elsewhere require modification for our use. Background and scale must be studied from a new point of view.

In order to understand these conditions, one should know something of the causes which have led to them.

Within the last twenty years the steel frame and elevator have wrought a most extraordinary change in our way of building for commercial purposes, but public and private buildings have not, as yet, been much affected by the new methods.

A revolutionary change in construction, such as this, is a thing of rare occurrence; to find a parallel to it, one must go back to the last years of the twelfth century when what is called the Gothic method of vaulting made its appearance and, with incredible rapidity, spread all over Western Europe. Under normal conditions, the new method of construction should produce a new style of architecture. This is precisely what did happen in the twelfth and thirteenth centuries, when a whole new set of forms suggested by the new constructive methods and exigencies was invented, and the so-called Gothic style was created.

Unfortunately, architecture in America is not in a normal condition; it is, indeed, in a most abnormal condition.

In past ages architectural progress has been an orderly system of evolution. All building within a radius which was sometimes contracted, and sometimes extended, followed a common line of development; change was gradual and fashion varied as a result of the combined efforts of all the minds engaged, — each builder trying to improve upon what he saw about him and working in a medium with which he was perfectly familiar.

With the great multiplication of books of travel and illustrations from foreign lands, which began in the latter part of the eighteenth century, and which received such an impetus about the middle of the nineteenth century through the introduction of photography when pictures of buildings in all parts of the world were placed within reach of everyone, the horizon of the builder was broadened, and, strange to say, with the most pernicious consequences. He was no longer satisfied to build in the style of his time and country

and to try to improve upon what he saw about him; he found it easier to copy than to invent. With the flood of illustrations came the desire to adopt for modern use the buildings of every age and clime. America was not the only place visited by this craze for the reproduction of incongruous types; it was, however, the one where the disease was perhaps the most pronounced and where the results were the most comical.

Even France, whose architecture has always been characterized among the nations of Europe by the greatest restraint, sobriety, and good taste, did not entirely escape the contagion, and under its baneful influence, during the early years of the nineteenth century, architecture in that country sank to the lowest ebb it had ever reached before or has reached since.

In the United States, after the Civil War, all the traditions which had given such charm to the productions of Colonial days died out, and an era of bad taste and vulgarity set in which is only now beginning to give way under the influence of the French school, an influence which has been applied directly through our young men who have gone there to be taught, and indirectly through the numerous schools of architecture, which have sprung up here as a result of its teaching.

In the midst of this chaos and confusion, with public taste at as low an ebb as it has probably ever reached among people who claimed to be civilized, with architecture for the most part in the hands of men who had had little training in or knowledge of even the elementary principles of design, our new method of building was ushered in, and we were called upon to deal with a problem, the proper solution of which called for more technical and artistic skill than we possessed.

If such a revolution in the method of building had occurred in a country where architectural training was general and public taste cultivated, it is probable that the problem it presented would have been dealt with very much

in the same way that the builders of Western Europe dealt with their great problem near the commencement of the thirteenth century. That is to say, they would have allowed themselves to be led by the methods they used and, instead of trying to disguise their construction and to clothe it in antiquated styles which were intended for buildings of another kind, they would have let their work show how it was made and have sought to beautify it by inventing and using new and appropriate forms. In other words, they would have been truthful, and all good art is truthful.

It is needless to say we went about the task in an entirely different way; with a few notable exceptions, the steel frame was treated as if it were a thing to be ashamed of, covered up and disguised. We tried to make our buildings look like anything but what they really were; and a great deal of ingenuity was expended to accomplish a result which reason must pronounce as opposed both to good taste and to common sense. In saying this I claim no exception from the general rule for myself. I, like the others, have my sins to answer for, but I see a new light and I have reason to believe that the same light is breaking upon many others also.

No one man can invent an architectural style, and no body of men working upon lines contrary to reason can invent one.

The time is at hand when the absurdity and bad taste of our past methods will be fully understood and freely admitted.

We will cease to wonder that cultivated foreigners are not favorably impressed with our tall buildings, and will set ourselves to work to make them as perfect and reasonable artistically as they are ingenious and daring mechanically and constructively. Sheet metal cornices with profiles suitable only for stone will cease to be used at the tops of towering structures where they serve no other purpose than to shut out some part of the sadly needed sunlight from the abyss below; stone work which appears massive,

but which in reality is only a thin veneer over the iron columns, will not be thought necessary; terra cotta will be used in a legitimate way as a filling for panels where no strength is required, or as a covering for metal to protect it from fire, and will cease to masquerade as stone; huge walls of masonry, which add nothing to the strength of the building and which must be supported at great expense by the iron frame work, will be dispensed with; the propriety of using colonnades and arcades as crowning features perched on the top of façades hundreds of feet high, where they belie the interior arrangement, will be questioned, and a hundred other features which are not reasonable will give place to forms which are suitable both to the material used and to the purpose for which it is used. When this happens we shall make progress in the direction of good art and the creation of a national style capable of a reasonable explanation.

But unless we take the matter in hand promptly, we shall find ourselves out-distanced by the French. The steel frame has only recently been introduced in France and is used there chiefly for commercial buildings of moderate height, but already it is assuming a legitimate form. The logical Frenchman, like his ancestors of the thirteenth century, finding walls unnecessary, rejects them. The Gothic builders, when they found a way to support their vaults and take up the thrusts by piers and buttresses, discarded the masonry walls between as useless, and filled the voids with luminous screens made of delicate stone tracery and painted glass. So the modern Frenchman, finding structural walls unnecessary where the steel frame is used, dispenses with them and fills the panels formed by the framework with light inclosures of terra cotta faïence or glass. He hammers his iron work into graceful and appropriate forms and gives to the whole construction an entirely new cachet, which is rapidly being developed into a beautiful style of architecture.

Although we have such a multiplicity of laws that it is a question whether the individual has not less freedom here

than anywhere else on earth, yet every man's right to disfigure the city by the erection of eyesores and monstrosities along the streets has never been questioned; and many of those who build avail themselves of this license to the fullest extent. We have high buildings and low buildings in indiscriminate confusion; buildings in every conceivable and inconceivable style of architecture side by side; buildings of every color and every kind of material jostle each other in the wildest confusion.

This is the American background for public buildings.

Who that has seen the splendor of the palace of the Louvre in startling contrast with the masterly monotony of the long simple lines of the opposite façade of the Rue de Rivoli can fail to appreciate the immense importance which background plays in design when properly handled. Everywhere in the superb city of which the Louvre is an ornament, one is forcibly reminded of this truth. Public buildings seen in contrast with façades of uniform height and material, either as points of view at the end of the long vistas formed by the street façades, or rising majestically above the general mass of the city, gain immensely in dignity, beauty, and importance.

No such condition can be found in this country. Wisely or otherwise, we have chosen our way and must continue in it. Our architecture must always be of a more fantastic

kind and of a less sober variety.

Whenever I have seen the design for a great municipal improvement intended for an American city, I have found indicated for the ordinary buildings the long sober lines of the European city, but they are unattainable here. These plans are misleading; no background or setting of that kind can be had for public buildings, and the makers of such pictures deceive themselves and are doomed to disappointment. Except in few cases, the setting and background will be as wild, confused, and fantastic as a magician's dream.

Should these buildings, then, be low and massive, of a

different type and of a different kind of architecture from the surrounding structures, or should they out-Herod Herod and dominate them in height and extravagance of design? I think there is little doubt but that the latter course will be preferred.

It is perhaps fortunate that, while our gigantic commercial buildings upon half-baked designs have been going up, public buildings have adhered to their traditional form. Our architects have been gaining knowledge and experience, and public taste is improving. We shall be much better qualified to deal artistically with the tall public building in the future than we have been in the past.

When we leave off trying to force our iron frames into unsuitable coverings and set to work to design in a more reasonable way, we shall, as I have said, begin to develop a true architectural style. A true architectural style is capable of every shade of expression from the most light and fantastic to the most majestic and dignified.

Our tall buildings represent no new style, but simply a new method of construction decked out in borrowed clothing.

Although we have failed to secure the applause of the rest of the world for these buildings, most of us profess to take a certain pride in them; but it is doubtful if the feeling is very genuine. We have a lurking inward consciousness that they do not belong to the highest type of art. This conviction is clearly enough manifested in our treatment of public work. When an important public building is to be built, we instinctively reject the high building type and turn to the ancient models as more appropriate. Our architects are more at home and sure of themselves on They do not feel the same necessity for deception and disguise in design which they practice with the tall building, where almost every detail pretends to be something which it is not. In buildings of the old kind. construction and design go hand in hand; columns are real columns and support what they appear to support. Walls are real walls, which perform the functions they appear to

perform, and so on all the way through; and one rightly concludes that this kind of construction is more dignified than one which, so far as outward appearance is concerned, is a tissue of falsehood.

But height in itself is certainly no detriment; height is not inconsistent with dignity; the very contrary ought to be true; the trouble is that we have not yet applied to the high buildings the same truthful, simple, and artistic treatment which ages of experience have taught us to use in monumental buildings of moderate height.

But the time will soon come when all this will be changed, and when that time does come, I predict that public buildings in the United States will be carried to such amazing heights that the tallest commercial building will be dwarfed by them. I have no doubt that heights approximating two thousand feet will be reached within the next twenty-five years, for I see no reason why such heights should not be practical. The enormous weights involved will be carried by columns of cast-steel of almost solid section bolted together, and not built up of the rolled structural form which we now use.

Quite as important as form is the question of site.

Public buildings should always be, and in recent years fortunately are being more and more, considered in connection with general plans for city improvement. One hears the expression "Civic Center" with increasing frequency, and the opinion is rapidly gaining ground that no public building of great importance should be undertaken singly, but rather as a part of a general plan for city improvement. Many such plans have been made; but, up to the present time, few have been carried out. The trouble is that in making them, we choose the line of greatest resistance, rather than the one of least resistance, which has been followed where such plans have been carried out in Europe. Instead of selecting a new location upon comparatively inexpensive land, with the idea of improving the surroundings by the building up of a new center, we adhere to the old

location, where a general plan of improvement can only be carried out with great difficulty by destroying valuable existing buildings, and by condemning land which is extremely costly. The European method is to reclaim slum districts, to use the sites of abandoned fortifications, or to go away from the existing center and establish a new town or locality alongside of the old one. A beautiful example of the last method can be seen at Brussels. The charming historic municipal buildings which cluster about the square in the heart of the old town have been left undisturbed, and a new quarter has been built, at one side of the ancient city, where there was found abundant room for public buildings, spacious streets, and open squares.

In Paris under Napoleon III, the new streets were cut through the worst parts of the old town; the poorest parts became the best and the lowly places were exalted. In Paris, too, and in many other cities of Europe, the sites of the old fortifications with their moats have been utilized for boulevards and other public improvements which sometimes entirely encircle the heart of the city. Vienna has perhaps benefited most in this way; but the proposed removal of the present walls of Paris will place that city far in the lead of all others in this respect, for the space will be sufficient to provide for a plan of the utmost magnificence, upon a scale more extensive than any which has preceded it.

We do not have such opportunities here, but we do have our slum districts and undesirable quarters which can be transformed, at comparatively little cost for the land, and where the improvement would so benefit the surrounding region that the increased revenue from taxation would almost offset, if it did not entirely offset, the cost of the improvement. A law to permit the city to condemn land in excess of its actual needs would certainly make it possible to carry out such plans at little cost to it.

When great sums of public money are to be spent, why not spend them in a way to accomplish the greatest good? If public buildings are to be built at the existing center

of the city, where their presence will not materially enhance present values, and where the land which they occupy must be taken from the best part of the city's tax roll, public welfare will be little benefited by the expenditure, and the city may lose many valuable historic associations in the destruction of the old landmarks. If, on the other hand, sites for the new buildings be chosen in poor quarters which may be transformed and made valuable, the land would cost the city less, the revenue from taxation, instead of being decreased, would be increased, and old associations would be preserved. Under favorable conditions, a whole new civic center would be created at no greater cost than would be involved by the erection of a single building in the old locality.

The advantages of this method are so many and so obvious that it would seem that it need only be suggested to insure its merits over the American way; but it does not find favor here at present, and until we are educated up to it, no very extensive city improvements through the grouping of public buildings, such as one sees so often in European cities, are likely to take place, for the cost will be prohibitive.

New York City at the present time presents a striking example of the difficulties of the American method. For several years it has been trying to find a suitable site for its proposed new Court House.

Instead of adopting the simple expedient of going a little to one side and condemning a large area in an inexpensive neighborhood where enough land might be had not only for the Court House, but for other public buildings of the future at a cost hardly greater than would be required for a site for a single building near the present City Hall, we throw away this opportunity to benefit the city by the development of a new center which would in time become as valuable as the old one, and refuse to consider seriously any but the old locality for the new building. After years of deliberation and after recommending several other sites, the commission finally, in despair, proposed

placing it in the City Hall Park. Fortunately, this raised such a storm of protest that it is doubtful whether the plan will ever be carried out.

It ought to be accepted as an axiom that the placing of public buildings in small city parks or squares is always a mistake and should never be resorted to.

The New York and Hartford Post Offices are ever-to-beregretted instances of this sort of folly, and here in Philadelphia one finds perhaps the most glaring case of all. Notwithstanding its immense cost, I do not think that public money could be spent in any other way so advantageously for the improvement of the city as in the removal of the Philadelphia City Hall, for, standing where it does, it is nothing less than a monument to bad taste and a most conspicuous advertisement of the lack of artistic instinct in the people who permitted it to be put there. If the design were as good as it is bad, and the building was the finest architectural creation of modern times, it could be nothing but a disfigurement to the city in blotting out as it does the square on which it stands and in destroying the vista of the streets which it obstructs.

THE LOCATION OF PUBLIC BUILDINGS IN PARKS AND OTHER OPEN SPACES

MR. FRANK MILES DAY

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THE discussion of my subject obviously involves a consideration of the question, What conditions justify such a use? and that question is one that should be considered with entire calmness and answered with judicial poise. Unfortunately, it is rarely so considered or answered, for if it were, we might hope to reach agreement as to its fundamental principles. As a fact, attention is from time to time focused upon the merely controversial aspects of it, while friction is engendering heat rather than light.

Though I should like to handle the question in a broad and calm way, I fear that before I have spoken many minutes you will find a natural predilection for the preservation of open spaces at odds with a desire for stately settings for fine buildings, and that whatever general argument I may make against putting buildings in parks is weakened by special pleading for putting them there in certain cases. The whole question, it seems, is like so many others that confront us in life, — one that needs a reasonable exercise of common sense in each particular case rather than an attempt to establish rules that permit of no exceptions. Yet, after all, from many special cases, one must try to deduce some general principles.

The question has then at base two aspects: one, the kind of open space proposed as a site; the other, the kind of building proposed for erection in it.

Great cities own many open spaces, varying from plots of a few square feet to noble stretches of natural landscape. In any list of such spaces, we find some temporarily occupied as storage yards by city departments, some held subject to sale, others serving as public dumps, some reserved as sites for future schools or fire houses. Many are in such neglected condition that any change, whether into a playground with its attendant buildings, or into a site for the most modest and utilitarian public structure, would be a welcome improvement. Proposals for the sale or use of such apparently unimportant places are rarely scrutinized with the care that every such proposal should receive. Their passage into private ownership or use as a site for a building often deprives the city of what might in the end be an open space of great value. The snapper-up of unconsidered trifles is always with us.

It is when we reach the use as building sites of somewhat larger units, more fully developed and having a more permanent character, that controversy usually begins. I refer to squares, greens, abandoned burial places, and similar pieces of ground. Propositions are made with great frequency for the erection on such places of buildings intended to serve the most diverse purposes. It is natural and proper that those who feel the need of breathing spaces in the built-up portions of the city should be keenly on the alert to prevent the diminution of such areas. Their value to the surrounding population has gained permanent recognition. For their preservation and increase, societies exist in many cities; for example, in Philadelphia, "The City Parks Association."

The need for such small parks has been so urgently felt that many have been established, frequently at great cost, sometimes by the purchase and destruction of a whole block of buildings. So vital for the public welfare have such spaces seemed that New York has carved them out of congested areas at a cost, in some instances, of three-quarters of a million dollars per acre. Such spaces in lower New

York, amounting in all to sixty-seven acres, have been acquired of late years at a cost of fourteen million dollars. That sum is about three times the original cost of Central Park, which contains ten times their acreage.

If, then, these city parks are so vital as to justify, even in special instances, such vast expenditures, it is obvious that the potential value of the city's existing open spaces must never be lost sight of when it is proposed to erect in them any structures of sufficient size to appreciably affect their character as open spaces.

The use to which they are put is altogether another question. Many a decorous city square, with its grass and flowers, its cement walks, its park benches, and its preposterous little guard-house, would be of much more obvious utility to the community if converted into a properly equipped playground for children; but it must be borne in mind that the fundamental utility of the area as mere breathing space, mere unencumbered ground, is the same in either case, and that its value as such of that fundamental utility probably far exceeds the value of such temporary use as it may serve from time to time.

It is this value of mere breathing space, as apart from the more obvious use or lack of use of a piece of open ground, that is so difficult to establish when a proposition is made to convert that piece of ground into a site for a specific building. No such place "is safe until public sentiment is educated to a controlling belief that breathing space in a city is quite as essential to the mental, moral, and physical health of its people as building space, and that the very best use to which certain portions of its territory can be put, is to . . . keep buildings off of it."

It would seem, therefore, that there should rest upon those who advocate the erection of a building upon any public open space of moderate size, and especially within the built-up part of a city, the onus of proving:

First, that the service to the public of the proposed building will be greater than the service of the open ground

plus the use to which that ground may be put without building on it.

Second, that the increased public service due to the erection of the building shall be an affair not only of the immediate future, but of the distant future, for it is quite conceivable that the utility of the ground as mere open space may advance much more rapidly than the utility of the intended building.

Third, that it is impossible to obtain any other site

suitable for the proposed building.

In addition to its minor pieces of land and to its squares and commons, nearly every large city has an area called a park, and some cities are fortunate enough to have several such areas. Now, although the word "park" is loosely applied to open spaces of all sizes, serving the most various purposes, I think we may all agree that it is generally used to indicate an area of considerable size, having a rural or sylvan character, affording a change from the sights and sounds of a busy city and serving as a place of bodily and mental refreshment. And since refreshment of mind comes for most of us very distinctly from the influence of beautiful natural scenery, it follows that "the value of a city park, for a city population, is greater or less according as the poetic charm of its scenery is preserved and developed." This point was very clearly made by Frederick Law Olmsted and Charles Eliot in an article in Garden and Forest, where they enforced it by saying: "The beauty of its landscape is all that justifies the existence of a large public open space in the midst or even in the immediate borders of a town, and its directors, holding to the supreme value of fine scenery, will take pains to subordinate every necessary construction, and to perfect the essence of the park, which is its landscape, before elaborating details or accessories. Large public buildings, such as museums, concert halls, schools, and the like, may best be placed near or facing upon the park: but to place them within it is simply to defeat the highest service which the park can render the com-

munity. Large and conspicuous buildings, as well as statues and other monuments, are completely subversive of that rural quality of landscape, the presentation and preservation of which is the one justifying purpose of the undertaking

by a town of a large public park."

Although the words that I have just read you were written many years ago, the soundness of the ideas they convey is repeatedly demonstrated. Buffalo has recently deprived Delaware Park of a large part of the charm it once possessed by the simple process of erecting a beautiful building in it. Hartford, on the other hand, having to provide for a Supreme Court building and a State Library, did not place them in the existing park, but purchased ample adjoining areas.

To return, however, I take it that the chief incentive to the establishment of our large parks was a desire to give the people a space near at hand but large enough to have that free, open, tranquil character which is the antithesis

of the congestion and turmoil of urban life.

The question whether such parks should be used as building sites comes down in a large measure to whether we have lost sight of the very purpose which they were meant to fill, or whether we have changed our conception of their chief use. If we are still of the opinion that this antithesis is the fundamental and sufficient justification for holding in public ownership such large areas, then, as has been well said long ago, "Sound art, high art, in our spacious parks means essentially the development of every possible poetic charm in their natural scenery and the exclusion of every element which conflicts with this purpose."

So much easier is it to deal wisely with the abstract than the concrete that until a specific case arises all are agreed that a large park of sylvan character should not have buildings erected in it. Now let us take up some special cases. Where, as is sometimes the case, a portion of the park is more or less separated from its main body and so surrounded by buildings or by land that will be built upon

that no park-like charm can be maintained, the question may well be weighed as to whether it would not serve a better purpose as a site for a building of general public use.

Many years ago there was in New York a space of seventeen and one-half acres adjoining Central Park to the westward. This space, enclosed on three sides by building lots and separated from the park by a broad avenue, was dedicated to the erection of the American Museum of Natural History. The open space gradually disappears as the museum grows, but its loss is scarcely felt on account of the great area of the adjoining park. The employment of a part of a park as a building site under such circumstances appears to be fully justified.

A case in point at the present moment is the proposed use of a part of Fairmount Park, Philadelphia, known as Snyder's Woods, or the Cliffs, as a site for a convention hall and stadium. It is ravine-like, little frequented, and it is cut off from the rest of the park by definite physical features, — a city street at one end, a double-track railway at the other, the high embankment of a reservoir on one of its larger sides, and a four-track railroad on the other. The development of this piece of ground in consonance with the fundamental purpose of Fairmount Park is difficult to conceive. Granted that its location is a proper one for its intended uses, there would seem to be no good reason why it should not be applied to them.

Let us take a third case. Central Park, New York, has long high reservoirs centrally placed within it. Eastward between them and Fifth Avenue is a narrow strip of park, cut off from the rest of the park at its ends by deep roadways with heavily planted banks. This is the site of the Metropolitan Museum of Art. So reasonable seemed this choice that even the able landscape architects in charge of the development of Central Park concurred in it, yet to-day there are many who hold the opinion that its placing was a grave error. Certain it is that one cannot pass on the east side of the park from the northern to the southern

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half without recognizing the Museum as a most unfortunate intrusion.

But it would be unreasonable to set up as our ideal for all parks under all circumstances the natural type or, as in many cases it is, the artificially natural type. Frequently, by reason of its size, of its surroundings, of the very character of its site, it is folly to attempt the sylvan landscape. A formal treatment of many a park area, though in this country we are rather prone to sniff at it, would give us a finer, a more reasonable, and a less expensive solution than would an attempt to coax unwilling nature into an imitation of herself. With this kind of park we are unfamiliar. We have not even a fair example of it. It seems to us more artificial even than the artificially natural. Some day we are sure to have a splendid example of it. The meandering roads and dotted trees of the Mall in Washington, at variance with its original design and totally out of harmony with its surroundings, seem so preposterous that its dignified development with tapis vert and leafy avenues serving as a setting for the monumental buildings along its flanks cannot much longer be deferred. We should urge upon Congress the importance of such a transformation of the Mall. It is sure to come with the increasing artistic enlightenment of our people.

Since we deal here with the relation of buildings to parks, I mention the formal type because no such dissonance between it and its related buildings is felt as is necessarily felt in the naturalistic type. You may see a master of the naturalistic design paying his tribute to a master of the formal when I read you some words of the elder Olmsted. Speaking at Saratoga of the importance of the continued intelligent maintenance of definite fundamental ideas, he said: "The present town park of Dijon was laid out by Le Notre before the waters of Saratoga had been tasted by a white man, and its plan is as different from any modern park as the personal costume of that day differs from that we are wearing. But visiting it not long since, I found

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the town forester following orders which Le Notre had given, and the ground better realizing the pictures which must have been in his mind, than it could possibly have done while he lived. The roads, walks, seats; the verdant carpets, the leafy vistas,—in none of these had the original work lost value. Never before were they as well adapted to their designed use, or worth as much for it."

Having now considered several sorts of public open spaces, let us turn to several sorts of buildings which it is from time to time proposed to erect in them.

If buildings placed within parks are, as a rule, detrimental to the effect of the parks, it must be borne in mind, on the other hand, that parks as a setting for buildings ordinarily greatly enhance their effect. There can hardly be any question that the proper placing of a public building in ample grounds designed to harmonize with it is of the highest importance, and this element of the problem must not be ignored.

It is obvious that no reasonable objection can be advanced to the erection in a park, of buildings used in caring for it and in supplying the immediate needs of those who frequent it. Such buildings are usually small and unobtrusive, and often they may be screened by foliage.

Among buildings of great size, those that appear to have been the most successful in securing sites in parks are museums, whether of art or science. In New York there are several in addition to the two of which I have spoken. In Philadelphia the museum called "Memorial Hall" is a relic of the Centennial Exhibition, just as in St. Louis the Museum of Fine Arts dates from the Exposition, and in Chicago the Field-Columbian Museum, from the World's Fair. Chicago also has its Art Institute in Grant Park and its Academy of Sciences in Lincoln Park. In Cincinnati the art museum stands in a park of great natural beauty. In Buffalo the Albright Art Museum has recently been erected in Delaware Park, while in Pittsburg the vast Carnegie Institute stands in Schenley Park. A

long list of museums built in parks in Europe might be made. Many of these sites are of relatively small size, for the placing of large buildings in parks of naturalistic design is rarer in Europe than in America.

I take it that consent to the placing of museums in parks in so many instances is an expression of public appreciation of the high educational value of such institutions, but it is also an evidence of a failure to keep constantly in mind the value of a park as such. It must be remarked, however, that in a number of the cases cited the museum has been left from an exhibition of which it was a mere incident, and in the general excitement attendant upon the establishment of which the ill effect of its permanent placing in the park was overlooked.

But if promoters of museums have on the whole succeeded well in seizing sites in parks, promoters of zoölogical gardens have succeeded even better. The nature of the undertaking demands a large area and many well-separated buildings. A large part of the exhibition needs to be carried on out of doors. The buildings may be many, but they are not usually large. There are two chief objections to the placing of such gardens in existing parks: one, that they diminish the park area; the other, that they are destructive of the charm which we regard as the peculiarity of a good park. When such gardens are to be established they should be placed either in isolated parts of existing parks, where their presence will not be injurious, or better, new areas should be sought for them.

In America, state capitol buildings are very generally placed in parks or squares. Sometimes the buildings have been placed in large grounds already in public ownership, sometimes adequate spaces have been bought for them, in other cases after their erection the need of a suitable setting has been felt and sufficient ground for it has been provided.

Municipal buildings have not as a rule sought their sites in parks, though some have found them in squares. Philadelphia offers an example of the most thorough obliteration

of a space of enormous potential value by the erection of a structure of (shall we say) vast cost. That we are now trying to carve out a plaza to the northwest of City Hall, shows that we realize too late the vital error in having used William Penn's Central Square as a mere building site.

Such purely utilitarian structures as pumping stations have been singularly successful in gaining sites in parks. We have to go no further afield than Fairmount Park to see at least three parts of it seriously marred by such great unsightly buildings. No public protests prevented their erection, and though we doubtless feel that no such injury could to-day be inflicted upon the chief park of one of our great cities, we must not forget that even within the last few years and in spite of the most vigorous protests, pumping stations have been erected in parks in Harrisburg, Seattle, and several other cities.

To state the kinds of buildings for which from time to time sites are sought in parks and squares would be to make a list of nearly all the sorts of buildings that we now erect. I give in an appendix a much-abbreviated list of the kinds of buildings that have sought sites in a single park and from one you may in a measure judge all.

It is fair to say that the pressure for the erection of buildings in parks or squares comes generally from a small number of people intensely interested in some specific end and unable to view it in true proportion to other things. Such movements are usually attended by excitement. They seldom reflect a general sentiment. It is natural that those who desire their erection should see very clearly the great advantage to the building, and incidentally to their cause, and fail to see the injury to public welfare through the perversion of the open space from its proper purpose.

It takes but little imagination to conceive of a well-developed park or public square as an admirable building site, but it is hard to realize how infinitely more difficult it is to find a desirable site for a park than for a public building.

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Obviously the first duty of a community in respect to parks is their establishment. Its second is their defense against unjustified encroachments, for if attacks upon their integrity be not beaten off, in the end there will be no parks, every successful attack being a precedent for other destructive projects.

Eternal vigilance is the price of the preservation of open spaces. Upon those who would diminish their area should be thrown the burden of proving the wisdom of such a course. Few will be found to controvert these general statements. Public sentiment is all on their side. You cannot rally a corporal's guard in support of a general proposition that parks should afford sites for public buildings. But a position impregnable to general and open assault may sometimes be taken at a weak point by a small and determined band, especially if animated by a sense of the righteousness of its cause.

The danger to a park or to any open public space lies in the diversion of a part or the whole of it for buildings that at the moment seem to a certain section of the public to be of pressing necessity. The question is not unlike the tariff. Every special interest presses with skill and force to carry its point. It is only the public welfare that lacks consideration and defense.

You may notice that those who would erect gymnasia in our public squares are pained by the thought that the opposite side of the square should be used for a branch library, physical development being, of course, so much more fundamental than intellectual. The library people, who are all for the intellectual, will not for a moment tolerate the use of a third side for a pasteurized milk establishment, while these lacteal idealists in their espousal of a new cause can grant no space upon the fourth side for so old-fashioned a purveyor of liquid refreshment as a pumping station. You can gather ardent bands of citizens to work in support of any one of these propositions, but not of all. And so you may run the gamut from a Metropolitan

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Museum of Art down to a pavilion for perambulators, each with its own advocates, the public at heart opposed to all, yet only too often failing to make its voice heard at the critical moment.

APPENDIX I

The recent controversy over the placing of the Field Museum of Natural History in Grant Park, Chicago, may well detain us for a few moments. The facts in this matter are obtained from many hundred pages of paper books now before me and from a brief résumé of the several actions made by attorneys (Tolman, Redfield and Saxton) engaged in them. It appears that the late Marshall Field left by will the sum of eight million dollars to the Field Museum, directing at the same time, that four million dollars should be used for the construction of a museum building. The entire bequest was made upon the condition that within six years from the date of Mr. Field's death, which occurred in January, 1906, a satisfactory site for the building—without cost to the Museum or to the Field estate—should be secured.

The trustees of the Museum subsequently requested that the South Park Commissioners provide a site on the eastern portion of Grant Park, which comprises, roughly, the ground lying between Michigan Avenue and Lake Michigan and Twelfth and Randolph streets. The part upon which it was planned to erect the museum building consists of made land east of the Illinois Central Railroad.

An inspection of the plans for the proposed general improvement of Chicago will show how important a part in them is played by the intended museum group in Grant Park. The site is upon the axis of Congress Street, balancing the proposed civic center at the western end of that street.

When it is considered that this park is bounded to the west by buildings ten or twenty stories high, that it is traversed by the Illinois Central Railway, that it has been

gained from the lake by dumpage, that it is absolutely flat and entirely lacks park-like charm, that it already has a large building in it, that its area is capable of indefinite increase at slight cost, and that it is most central in its location,—the proposal to erect a great group of museums in it and to give the park a definitely formal character in harmony with the buildings seems by no means an unreasonable one. The legal battle seems, however, not to have been waged about the question of the wisdom of erecting the buildings at the point proposed, but about the interpretation of certain old deeds.

"The plats according to which the ground east of Michigan Avenue was originally dedicated as a park contained provisions that the park should be kept open and free from buildings. The condition of the dedication for many years was not strictly observed; but shortly after 1890 Mr. Montgomery Ward, who had acquired property on Michigan Avenue, began litigation to restrain the erection of buildings in the park. By this means, the construction of a city hall, armory, and other buildings was prevented. The Supreme Court held that the terms of the dedication attached, not only to the land existing at the time of the dedication, but to the land subsequently reclaimed from the waters of Lake Michigan. When, therefore, it was proposed to erect the Field Museum in Grant Park, Montgomery Ward again sought an injunction. The proposed building, on account of intervening structures, would hardly have been visible except from the upper stories of the Ward building on Michigan Avenue, and it could stand entirely upon reclaimed land; but the court held that the prohibition of buildings in the dedication applied, and the injunction therefore issued. The final effort to place the building in Grant Park took the form of a suit by the South Park Commissioners, who sought to condemn the easements of Ward and other property owners in Grant Park and their right to have the park kept free from buildings. The Supreme Court, however, held that the

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rights of property owners on Michigan Avenue were paramount even to the power of condemnation by the State.

"The intention of locating the museum building in Grant Park has, therefore, been abandoned, and negotiations are now in progress for the furnishing of a site in Jackson Park, one of the other parks under the control of the South Park Commissioners. This park lies several miles to the south of the center of the city and in that respect is inferior as a site to Grant Park, but there is no prohibition of buildings in it."

Thus it appears that, after many years of legal strife, the Field Museum is to find its site in a park, but in one which will be injured rather than improved by it and at a point remote from the center of the city rather than at its heart. Thus are we governed by the details of ancient private agreements rather than by reason and the welfare of the people.

APPENDIX II

Mr. Robert Wheelwright has compiled a list of some of the attempts made to alienate parts of Central Park, New York, from the purposes for which it was established. His article, entitled "The Attacks on Central Park," appeared in Landscape Architecture, October, 1910. He notes first, "wherever successful provision has been made for boating, tennis, music, playgrounds, and the like, such introductions ... have been incidental and subordinate to the controlling motive of the park. In 1862 the Legislature authorized the construction in the park of a building for the New York Historical Society, but the Park Board declined to accept the designs for it. Even as early as 1864. the Park Report said that if 'all the applications for the erection and maintenance of cottages, houses, towers, fountains, telescopes, "Æolian Harps," gymnasiums, observatories, weighing scales, for the letting of velocipedes and perambulators, for the sale of eatables, Indian work, tobacco and segars, were granted, the buildings would occupy a large

part of the park, and give it the appearance of a country fair or military training field."

In 1867 a private firm was allowed to erect an establishment for the sale of mineral waters. A few years later it was bought by the city and it is still standing.

In the report of 1872, the commissioners again remonstrated against the innumerable plans proposed for utilization of park space. "It has, for example, been seriously proposed that it should be used as a place of burial for the more distinguished dead of the city; that all religious sects should be invited to build places of worship upon it; and often that some central feature should be introduced, corresponding in obvious importance to the dwelling in private grounds." A serious discussion followed the suggestion of modeling the "North Meadow" to form a map of the world. Suggestions went from a street railway through the park to race tracks and itinerant preaching.

The grants for the erection of the Museum of Natural History and the Metropolitan Art Museum were made in 1876. The "North Meadow" was twice threatened by a "menagerie," and once the buildings for it were actually commenced. About 1883 there was erected on Mount St. Vincent a hotel, which still serves as a restaurant and

quarters for employees.

Passing the extremely vigorous agitation that prevented, on two occasions, the establishment of a speedway in the park, we find that in 1896 a bill was introduced in the legislature to have a permanent exhibition in the park for the glorification of the metropolis. A few years previous, a bill for a World's Fair in Central Park had been killed by Boss Platt. The '96 bill, however, had been read twice and reached the Committee on Finance before attracting public attention. It was "an act to incorporate, federate and locate the permanent World's Fair and its University of Nations." The Times of April 26, 1896, said it sought "to erect a permanent group of majestic palaces, costing fifty million dollars, to be and remain the crowning em-

bellishment of Central Park, perpetually evincing itself the highest possible sublimated utility to and for the commonwealth of New York." The site was to be in the very center of the southern part of Central Park. Fortunately the remonstrances of the park board were sufficient to prevent the passage of this bill.

The same month, a move was made to give space for the National Academy of Design within the Park, as "the city owed a debt of gratitude to that institution which it could liquidate only by giving it a building site in Central Park." This was the first attempt of several for the same purpose.

About this time, General Collis brought forth plans which would have destroyed the southern end of the park by leveling it off and building a huge esplanade of asphalt upon which to drill soldiers and form processions.

The year 1899 marks the construction of the green-houses. There had always been propagating houses, but it was thought best now to build exhibition houses. The people who were responsible for this failed to realize, as did those who allowed the introduction of the menagerie years before, that Central Park could not afford to spare its valuable ground for such exhibits. There should be and now are proper places set aside expressly for the purposes that these two institutions attempt to fulfill, but which it would be impossible for them to fulfill where they are now without occupying too much of the park territory.

The idea of an exhibition palace again cropped up in 1903. This plan was to cover the entire lower reservoir, making a broad esplanade with an exhibition hall built in the middle.

In 1904 a distinguished architect put forth a proposal showing the lines of Sixth and Seventh avenues continued through Central Park; the park area between Sixth and Fifth avenues and between Seventh and Eighth avenues was to be occupied by buildings; and all the property north

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and south of the park between Sixth and Seventh avenues was cleared of buildings. The result was a parkway strip, one thousand feet wide and about ten miles long and no Central Park.

A similar proposal followed in 1905, when a suggestion was made "to do away with a pleasure ground that has become a menace and a nuisance." The most recent scheme for a large edifice appeared in 1908, when Richard Croker tried to buy the Temples of Phylæ in Egypt, to remove to Central Park, where he wished to set them up. The Egyptian government refused to sell and the scheme ended.

This catalogue is very far from complete, since it includes only the more important proposals for permanently diverting from their intended use parts or the whole of the park. It makes no mention of innumerable schemes for a single or even recurrent use of the parts of the park for ends inimical to its proper purposes.

DISCUSSION

Mr. Thomas H. Mawson, Landscape Design Lecturer, University of Liverpool:

I am so entirely in agreement with the readers of the papers that I find it difficult to criticise; but speaking as a landscape architect I venture to think that on one or two points their assertions are too sweeping. Mr. Flagg said that buildings should never be allowed in parks and gardens, and Mr. Day affirmed the principle by saying that conspicuous buildings, as well as statues and other monuments, were obviously subversive to the rural quality of a landscape. The position thus set up seems to be that rural landscape and architecture are opposed one to the other. I maintain that this is certainly wrong.

May I illustrate by an example which many of you know already, that is, the Princes Gardens of Edinburgh? From

the top of the hill you have in the valley the old castle; you have the beautiful mountains; then you have Princes Street. "Well," you say, "the color is natural; the gardens are beautiful, Princes Street is a lovely street." But what are you going to say about Cockerell's monument and ruins right on top of all that has been flashed at you on the hill? Would you seriously propose that those buildings should be removed? Cockerell was very much blamed by some of the French critics. They called him, along with Wren, the "Grand Amateur," but artistic feeling is coming around to a very much different position as to Cockerell's work on that hill. You feel that the beautiful romantic old castle is a building designed to fit the site; that the poetic sentiment is mighty and not lost. I maintain that the contrast of that beautiful classic building which lies at the bottom of the garden simply throws the natural features of the park into greater relief than ever, and that you could not enjoy the romance and the beautiful picturesqueness of the rocks nor of the garden if it were not for the buildings.

As you know, the municipality of Vienna has acquired an additional ring of park land around the city from the highest hills; and there they are trying to retain all the picturesque bits, but right at the top of the hill there is a very beautiful building going up. The contrast gives to the landscape its value, and the landscape gives additional value to the building. The use to which it was reserved — that of a refreshment house — to me is a sufficient excuse.

Mr. Frederick Law Olmsted, Charles Eliot, Professor of Landscape Architecture, Harvard University:

Mr. Mawson has eloquently expressed a truth from which no one can dissent, namely, that many a beautiful landscape exists of which a building forms an essential part and which would be injured by the removal of the building.

The implication is clear that certain other landscapes,
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devoid of buildings, would be improved by the judicious introduction thereof. This might be the case in a public park; and where the introduction of a building will clearly improve a park, for the purpose which the park is designed to serve, of course its introduction is justifiable. This would merely mean that the park had been imperfectly designed for its purpose; was defective because of the lack of a needful building.

But if a park, instead of being defectively designed, has been skillfully and successfully designed to serve its purpose, the presumption is that any radical change, like the introduction of a building not provided for in the design, will make the park less perfect for the purpose it was intended to serve. For example, a purpose to which certain parks have been definitely devoted is that of affording a place of escape from buildings, regardless of whether they are beautiful or ugly; merely because city people get tired of buildings and seek, as a rest, just those landscapes in which buildings are wholly subordinated or altogether absent.

The trouble with a great many of the parks, both in this country and in Europe, is that they are not skillfully designed to serve a given purpose, but are the results of haphazard treatment and vacillating policy. For example, of two laudable but conflicting aims, purpose A is first sacrificed for the better attainment of purpose B and at the next turn purpose B is sacrificed for the better attainment of purpose A. Result: a wretched compromise, good for neither purpose.

Every piece of public land (except those held temporarily in reserve for purposes yet undetermined) ought to be assigned deliberately to serve some one definite primary purpose; and even though other and secondary purposes may also come to be served incidentally upon that land, nothing should be done for the sake of the secondary purposes which will in the slightest degree impair the practical efficiency of the tract for its primary purpose.

If the primary purpose calls for the introduction of a building or any other feature, that feature should be introduced; if the primary purpose would be in the least degree impaired by such introduction it should *not* be introduced, no matter how worthy the secondary aim may be.

Circumstances may arise which make the primary purpose for which the space was set apart no longer an adequate or worthy one. In this case the question is not that of introducing a building or other object injurious to the primary purpose of the space, but of deliberately abandoning that purpose and adopting another. But such a change ought to be made only with the greatest deliberation and upon the most convincing grounds; otherwise vacillation of purpose is apt to become established in the place of a consistent policy and to cause in the long run enormous waste. We may also have conditions which justify the abandonment of a portion of the space and its withdrawal from the purpose to which it was originally devoted. The placing of the Natural History Museum on a piece of land originally purchased for Central Park, referred to by Mr. Day, is a case in point. This was not placing a museum building in Central Park; it was detaching from Central Park a piece of land which had no essential relation to the rest of the park and using the detached piece for another purpose.

The subjects of the two principal papers suggest the importance of a policy in city planning of which we have seen very little in this country,— the securing of sites for public buildings as well as for parks in the suburban and growing sections of a city. Land should be set apart for what might be called a "suspense account," to be used for such public purposes as the future may bring forth. These lands might be put to various uses temporarily; might even be leased for private use; but would be assigned from time to time to specific, permanent, public purposes. It is the absence of any such public lands, either unassigned or designated as sites for buildings, which creates the pres-

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sure for treating all public open spaces, even when they have been deliberately devoted to other useful purposes, as vacant land available for building.

Mr. Grosvenor Atterbury, Fellow American Institute of Architects, New York City:

Mr. Flagg's "lacteal idealistic" view of the municipal building of the future calls for a few heartfelt sobs. He would have a municipal building with one material concealing a second material in imitation of a third material, of bad design, two thousand feet high. The chief function of this commercial structure will be to hide with its beauty

our present ugly public buildings.

Now, it hurts my æsthetic instinct, and my sense of patriotism, to have you go away to-night with an architect telling you that the American people are going to permit that kind of thing. I don't believe it myself. If you remember the Exposition of 1876, you may have seen there a building which was called the New York State Building. Three years ago, on the Sound near New Rochelle, I happened across a perfect monster of a house; it was of jigsaw Gothic, with polychrome petticoats all around it. Asking my host at dinner what it was, he said: "That is the New York State Building of the 1876 Exposition, which was bought and taken down at a cost of forty thousand dollars and put up here because it was considered to be one of the most beautiful buildings of the time."

The moral of all this is that we have a right to be hopeful. To-day, I think, our domestic architecture is becoming something that we may in a few years be very proud of. It is not quite fair to prophesy that in order to make a public building of the future stand out and say what it ought to say in a great democracy we must make it a bean pole in order to have it stand above cornstalks. It ought not to be in life simply a screen to hide the beautiful gems of architecture, and in death, — if you can think of it from aëroplanic standpoint, — a great ruin

of charred cinders and twisted steel looking like the remains of mastodonic hoop skirts.

On the other hand, Mr. Flagg has suggested one of the best solutions of the problem of limiting the height of buildings that I know of. Yet it is at best a restrictive measure. It is good only so far as restrictions go. The situation that needs limiting here is an economic situation. In all our cities to-day we are taxing in two dimensions and building in three. We tax on the land area, not on the cubic capacity of the building. Taxes are based on an assessed valuation which is based on the privilege of overloading the land, and the extent of this privilege is in turn based on the highest building anywhere in the neighborhood. If you own a house next to a high building your land is taxed on the privilege of putting up a building just as high. In England and other European countries the tax is laid upon the return obtained from the building. which means that a premium is put on wise, standard investments rather than on cheap buildings that bring a maximum rental for the minimum taxable investment. In this we are illogical, and while our restrictive efforts are good enough as palliatives, we can never stop the erection of excessively high buildings so long as our methods of taxation force the owners of land to work out of it rentals sufficient to bring their return over and above taxes that are based upon the privilege of building to excessive height.

Mr. Irving K. Pond, President, American Institute of Architects, Chicago, Ill.:

Mr. Flagg has challenged the peace of this quiet community — this city of brotherly love — by introducing into his discussion of municipal buildings and spaces a plea for the Beaux Arts system, and by placing a metaphorical bomb at the base of the Philadelphia public building! The chief disputant makes a plea, too, for the high municipal building with a logical cloaking of its necessary steel skeleton, in which he is justified, as, too, he is justified in his

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position that the low horizontal classic building is not altogether suited to modern municipal expression.

I welcome his rather irrelevant educational argument, for it lets me pay my compliments to the schools. We were pretty well along towards solving the problem of the steel skeleton when the man from the school intervened. had begun to cover the skeleton with a logical material used logically when the school attempted to play with the steel skeleton and dress it up in academic forms which did not function, and which made the building on its face belie the structure; and if this condition is not to continue, a change for the better must come through the sincere clearseeing individual of independent and possibly non-scholastic mind. The school, and this may be said particularly of the Paris school, is an obstacle rather than a help to the solution of our present problem. The French system is said to be excellent, but we may best judge of a system by the character and work of the men it produces.

I believe that Mr. Flagg has struck a true note in his plea, for the high municipal building, for the logical treatment of structure. Great possibilities inhere in the high building for municipal expression. New York is erecting a municipal structure along these lines; Oakland has followed. I do not think all of our low municipal buildings are altogether successful. We have in Chicago, I imagine, one of the lowest type. I have it from the architect that it expresses his idea of the function of the municipal and general government. He has superimposed on a three-story pedestal hollow, non-supporting columns ninety feet or so high and fourteen feet in diameter. This he did professedly to show the dominating power and authority residing in the Chicago Common Council and Cook County Board. I maintain that he misconceived the idea behind our government. I think it can find a finer expression in the high building, and even in a low one, than it found in that great building graced with the name of classic. The State does stand for something, but I believe it to be something entirely different

from the idea of dominance and brute force and magnificence expressed by the architect in many of our buildings. The State is of us and a part of us. It is an expression of our life and ideals. We cannot look to Paris or to Rome or to the Garden of Eden for forms for this expression. There is nothing in our life to-day, in our civics, in our politics, in our society, or in our religion that need be expressed by the exotic. Ours is a government of the people, by the people, and for the people. We are not dominated by the Chicago Common Council or by the Cook County Board or by the government of Washington. We are expressing ourselves, and in our architecture we can best express our ideals in forms and materials which are peculiarly our own.

As the high building is coming, I cannot see why it should not be made to express all the finer things in our life. We must have poise: the horizontal element will be introduced. We must give voice to our altruism and aspiration; and the perpendicular, the Gothic, will serve the expression here. We must exercise restraint and self-control, and for this, again, we must resort to the horizontal or classic principle. The building will not be Gothic, it will not be classic, but the elements that made those styles great will be in it. We will express ourselves. All this is compatible with the high building, but these principles do not necessarily demand Mr. Flagg's two-thousand-foot building. Just at present such a building is an economic impossibility, and may continue so to be. Were it possible, it would still be undesirable as a dominant object in a city plan. One has been suggested for Chicago — a fantastic bubble blown by an ambitious schoolboy — an exotic expression, unworthy of realization even if economically possible.

Too much attention is being paid in our modern city planning to the civic center and its monumental buildings and accessories, and too little to ameliorating the conditions of everyday life. It were just as well not to have the concentrated essence of the art of a city focused at one

point. The houses, the factories, the schoolhouses, and buildings for communal life and development, and their surroundings and means of inter-communication, need the art and best thought of the city planners.

Mr. William W. Emmart, Associate American Institute of Architects, Baltimore, Md.:

While I am strongly opposed to encroachments, as such, of any sort within the confines of parks, squares, and open spaces, I must concede that there may be conditions when the placing of a building in such open spaces can be justified. In the larger parks, large enough to have naturalistic and sylvan development, and closely hemmed in by compactly built-up sections of a city, a transition between the wildness and freedom of the park to the fixed formal lines of the adjoining streets is eminently desirable, and can be secured by the naturally formal setting of such buildings as may be placed therein. I feel that this is worthy of consideration and parallel with the gardens forming the setting for the house of any well-planned private estate. It would seem that all buildings, except such as are incident to the use of the park, should be restricted to this encircling zone.

While it would seem therefore that some latitude is possible in giving sites for public or semi-public buildings in the larger parks, when the topography or other natural conditions admit, my great concern is for the smaller parks or squares, the actual breathing spots; and here little if any latitude is possible, nor should the æsthetic phase be given consideration. Even where the transition of a neighborhood from residential to manufacture or business purposes would seem to justify, these encroachments on the open spaces should be fought.

Open spaces and broad boulevards dividing the city serve as admirable fire stops, and had Baltimore's business district been so provided, we should not have faced a loss of sixty million dollars from the fire of 1904.

No building can compensate for the closing or partial occupation of a breathing spot in a congested neighborhood. The only possible exception to this rule would be the headhouse for baths and dressing rooms, when a park is made over into an open-air gymnasium and playground, such as Hamilton Fish Park in New York; and the roof of the buildings might then become terraces giving back the equivalent area occupied at a level somewhat above the radiating ground heat.

Precedent, too, is dangerous, and when once established must ever after be reckoned with.

A "zoo" in a public park, as Mr. Day has indicated, is a dangerous proposition, not so much to my mind from its requiring considerable area that must be withdrawn from any other use, but because of its undesirable influences and almost sure attendants,—the peanut and popcorn stand, the candy and fruit stall; and the resulting litter and bizarre untidiness do much to break down the spirit of orderliness so desirable in the community, and directly tend to injure the park, well beyond the bounds of the area of the "zoo."

Speaking of my own city in particular, I must say that we have a number of reservoirs and head-houses and pumping stations in park areas, but this, owing to our topography, has also assured large lakes in places almost wholly without water, so that in Baltimore this has not been serious, particularly where a more than equivalent area has been gained by creating other parks at points where storage reservoirs have later been built. One thing regrettable in connection with such lakes, being that in most cases they have been treated merely as engineering problems, when a study of their form might have given far more pleasing and beautiful results.

The general discussion was participated in by Mr. Kingsley A. Pence of Denver, Mr. William M. Ellicott of Baltimore, Mr. Robert Anderson Pope, of New York City. The principal points brought out were as follows:

In the planning of very large parks, which amount really to reservations, such as the mountain park proposed outside of Denver, or the municipal forest to occupy an area between Washington and Baltimore, different conclusions might well be established from those set forth in Mr. Day's paper and in the discussions that followed it. For the more effective use of a mountain park, for instance, it might be necessary to provide a method of transportation through it, and rustic cottages as distributing stations along the route.

As an argument for locating museums and other buildings of public interest in parks, it was pointed out that such institutions located in parks were frequented by three times the number of people, but an answer to this was suggested that buildings located near or on the margin of parks would be equally well used.

BUILDINGS IN RELATION TO STREET AND SITE

MR. LAWRENCE VEILLER

Secretary and Director National Housing Association. New York City

WE have laid so much emphasis in recent years upon the importance of right city planning that there is some danger of our loading it too heavily, of placing upon its shoulders burdens which the movement was never intended to carry.

Contrary to the popular impression, city planning is not a panacea for all the ills of the body politic. It will not, strange as it may seem, bring ready relief for all our municipal troubles. Intelligent city planning, in advance of a city's needs, will do much to prevent the growth of many evils; courageous, progressive, and wise re-planning will go far towards remedying many of the evils from which we are now suffering, but neither city planning nor city re-planning will change essential principles of human nature, nor convert cities into communities made up entirely of altruists nor bring about the millennium.

There is a popular belief that city planning will solve the housing problem. Nothing could be further from the facts. The housing problem, as we know it in America, is largely a sanitary problem. It is chiefly the problem of good municipal housekeeping, the prompt removal of garbage, rubbish, and other waste materials from the homes of the poor, the cleanliness of streets and alleys, the provision of adequate water supply in convenient locations, of proper sanitary conveniences in the place of antiquated expedients. It is the problem of the sanitary control of

diverse foreign peoples seeking to adjust themselves to urban conditions of living with which they are unfamiliar. To a certain extent it is the problem of regulating their habits of life; of protecting them from themselves and of protecting the community from the results of their ignorance and carelessness. It is, of course, the problem of seeing that people have houses to live in which are fit for human habitation; that rooms and halls and public parts of the building are sufficiently lighted and ventilated; that not more than a certain number of people are allowed to live in one room. It is again an economic problem; a problem of adjustment of rents to wages, of providing a sufficient number of accommodations of the right kind to meet an increasing demand. It is also a structural problem - the problem of right planning; of proper methods of building; of protection against fire. And it is largely a social problem. But it is only in one or two cities where the sanitary aspect of the housing problem does not predominate.

That city planning will not solve the housing problem is readily to be seen when one considers the experience of those cities in America which have developed excellent city plans. I suppose there is no city in the entire country which from its inception has had so perfect a city plan and which we instinctively associate with the city planning movement as much as the capital city of the country, the city of Washington. Notwithstanding the beauty of that wonderful city, notwithstanding its almost ideal city plan, Washington has the unenviable notoriety of possessing some of the worst slums in the entire country.

The city of Detroit, modeled very much on the plan of Washington, with radial streets and with ample opportunity to spread out in every direction, finds itself now confronted with a serious housing problem, due to its sudden rapid growth and industrial development.

Indianapolis, with a similar radial system, finds that it has to reckon with a serious slum problem; and so one

might go through the roster of cities which have developed intelligent city plans and point out similar conditions.

When, however, we come to consider one phase of the housing problem, a phase which fortunately has as yet developed in but few American cities, namely, the problem of land over-crowding or congestion, we find there is a deep and vital connection between city planning and housing reform.

What are the points, it may be asked, at which city planning touches the housing problem? There are but three: the regulation of the height of buildings, the depths of lots and alleys.

Irrespective of whether a city is laid out with a gridiron plan, or with a system of radial streets, or with radial streets imposed upon the gridiron; or whether from the beginning zone systems similar to those so effectively carried out in Germany have been incorporated in the city's plan, and factories relegated to one section, dwellings to another, commercial buildings to another, and so on; whether any or all of these methods is absent or present, there still remains one vital consideration which really determines the whole city plan and also has its important relation to the city's future housing development. This is, the determination not merely of the width of street, upon which so much emphasis heretofore properly has been laid in city planning, but the far more important determination of the distance between streets: viz., the lot plan and the block plan. To the deep lot we can trace most of our housing evils so far as they relate to land overcrowding. The things we need to consider therefore in planning a city, so far as we are concerned with the conditions under which people are to dwell, are these:

The street plan determines the block plan and the block plan determines the lot plan. The street widths determine the height to which buildings may wisely be built and the presence or absence of alleys is of vital moment to the future sanitary welfare of the city.

What, it may be asked, is the general practice in America to-day with regard to each of these important points? How have our streets been laid out in our leading cities?

The only answer that can be made to these questions is that there is no general plan. The practice varies through infinite degrees in each city. In order to determine what the practice was a questionnaire was sent recently to all cities in the United States having over one hundred thousand population according to the latest census returns. This included the fifty largest cities in the United States. Definite returns to the questionnaire were received from the following forty-six cities: Albany, Atlanta, Boston, Bridgeport, Buffalo, Cambridge, Chicago, Cincinnati, Cleveland, Columbus, Dayton, Denver, Detroit, Fall River, Grand Rapids, Indianapolis, Jersey City, Kansas City, Los Angeles, Louisville, Lowell, Memphis, Milwaukee, Newark, New Haven, New Orleans, New York, Omaha, Patterson, N. J., Philadelphia, Pittsburgh, Providence, Richmond, Rochester, San Francisco, Scranton, Seattle, Spokane, St. Louis, St. Paul, Syracuse, Toledo, Washington, Worcester, Nashville, and Portland, Ore.

The depth of lot, if one can judge from the information thus received, seems to vary from fifty to two hundred feet. In the great majority of cities the lots exceed one hundred feet in depth. In only three cases is the usual depth of lot less than one hundred feet, namely, in the cities of Philadelphia, where it ranges from forty feet upward, in Lowell, Mass., where it ranges from eighty to one hundred and fifty feet, and Washington, where it ranges from fifty to one hundred feet. In twenty-five cases, or over one-half of all the cities, the usual lot is one hundred and twenty-five feet or over. In nine cases, or one-fifth of all, the usual depth of lot is one hundred and fifty feet or over.

It will be seen from this that what we have to reckon with in our larger cities is the problem of the deep lot and also the deep block. With lots one hundred and twentyfive feet deep it means that where there are no alleys the blocks will be two hundred and fifty feet in depth.

The reasons which have led to the division of the city in this way are not far to seek. While a city is comparatively small, when there is no great pressure of population, no traffic congestion, and the streets of ordinary width and number are more than ample for the needs of the population, it is only natural to expect the city authorities to lay out as few streets as possible. Every additional highway established means additional expense. It means more money for paving, more money for street cleaning, more for lighting, more for police. What is more natural, then, that public officials under these circumstances should seek to lay out their streets as far apart as possible and still serve the needs of the community as they then exist.

Another determining factor for the deep lot has been the prevailing desire on the part of the well-to-do members of each community to have not only an ample back yard but a spacious front yard as well; to set the house back from the street line often a distance of fifty feet, sometimes more, so that there may be grass and a flower garden and trees in front of the owner's house, giving to it that attractive appearance which adds so much to the charm of our American cities.

Under ordinary circumstances, for the better class of residences, this is a division of property which should be encouraged. If, however, we are to consider future tendencies based on our experience of the development of cities in the past, we must recognize that in every city the time some day comes when what has once been the best and most fashionable residence district of the town ceases longer to be so and gradually goes through that deteriorating process which keen observers cannot fail to have noticed. The high-class fashionable residence becomes first a boarding house, then later is used for furnished rooms or "lodgings," and finally for the cheaper class of tenement. When a part of a city has been put to uses thus foreign to the original in-

tent the deep lot which had been an advantage in the original plan becomes a serious evil.

Under these changed conditions gradually the building is extended in the rear and often in the front. Additions are put on so as to accommodate a larger number of people and the building rapidly becomes so extended as to cover most of the lot. In many cases additional buildings are placed on the same lot, generally at the rear.

This is but natural. With the deep lot the temptation to use a greater portion of the land is obvious. In fact it ceases to be a temptation and becomes a necessity if the owner is to realize from his investment its full value. With the changed values which ensue under such a development it is impossible for him to keep vacant as large an amount of open space as was possible for the well-to-do citizen who utilized it for his own home.

It will be seen that the problem is a difficult one. How are we to determine what is the most desirable lot unit for our growing cities? We cannot expect to confine the owners of high-class residences to the narrow limits of the shallow lot that is best suited for the ultimate needs of the neighborhood when in future years it becomes a tenement district. To suggest any such course would indeed merit being regarded as impractical and a visionary. Realizing, however, the tendencies that will be at work in future years even in the best residence sections of cities, it is the part of wisdom to establish as the standard a lot of the shallowest depth practicable. What that depth should be will, of course, vary in each community. In general, the owner will desire to have a spacious front yard, a building sufficiently deep to meet his needs, a spacious back yard and generally room for a garage or stable at the extreme rear of the lot. This means a lot generally speaking of one hundred and twentyfive feet in depth.

While this depth of lot is admirably suited to the purposes of a fashionable residence district it is highly objectionable as the standard for a future tenement district, and

is similarly too deep when such a district becomes devoted to business purposes. I see no escape from the dilemma, however. Our best residence sections will have to be designed to meet the needs of their present use and not of a remote possible future use.

If we could count upon the development of a zone system such as is becoming general in many of the German cities, by which the city would be divided into rather rigid lines and the residence quarter would remain the residence quarter for all time and the tenement quarter would retain its characteristics for all time, there would be none of these difficulties. We could then proceed to lay out our cities with one depth of lot for our high-class residence districts, giving to the men who could pay for it as much land as they could afford to keep idle, and laying out the districts in which the poor live on a different basis with shallow lots, giving to them the amount of the land for which they could afford to pay without carrying upon their shoulders any undue burden of rent, nor without forcing the community to bear undue burdens through congestion of population with all that that implies.

Assuming that there were such opportunities in America, which at present seems a very remote contingency, what, it may be asked, is the desirable lot unit for a tenement section? My answer is a lot unit which will result in houses not more than two rooms deep. From an architectural point of view there is no housing problem so long as houses can be built not exceeding two rooms in depth. This involves, of course, shallow lots and therefore shallow blocks, which means a great increase in the number of our streets and therefore a material increase in the direct cost of government.

For our large cities and for our industrial towns I believe the lots should not exceed in depth twenty-five or thirty feet. This means that there would be no front yard and no back yard; that the houses, built in continuous rows, would have one frontage on one street and another frontage on

another street. This must seem at first consideration a startling and radical departure from what we have been accustomed to consider as desirable in the housing of the poor.

The detached house has heretofore been considered to be desirable for the workingman in this country, with "space for a little garden" at the rear, for a flower garden in the front, and space between the houses for the admission of light and the free currents of air. This has been a beautiful ideal but in practice has not worked out advantageously. Here, again, we need to discriminate between classes of workingmen. So far as the higher-paid mechanics are concerned, men who are able to pay twenty-five dollars a month for rent or its equivalent, these suggestions are not meant; their homes should be treated very much in the same way as the homes of the people in the fashionable part of the town. They, too, should have a front yard and a back yard.

But for the ordinary laborer, especially the large foreign population which is coming to predominate in our American cities, the detached house is not desirable. In the first place we should frankly recognize that the common unskilled laborer of the type just described, cannot afford to pay for the vacant land at the front and rear of his dwelling. It is too great a drain upon his scant income. The idea of a beautiful flower garden for this class of population is Utopian. The idea of a vegetable garden at the rear of his house, where in the hours of freedom from toil he can have a chance to raise the produce which the family needs, while less Utopian is not in most cities a practical enterprise. The ordinary laborer, working as he does ten hours a day, has little time for the cultivation of any garden nor does the woman of the average laborer's family have time either, if she gives to her children the attention they require.

What happens, therefore, when land is left at the front or the back of the ordinary workingman's house is that it becomes an unsightly, bare patch of ground without grass

and, especially at the rear, a gathering place for all the waste material of the family existence. Dilapidated little outbuildings soon are erected, patched together with old boards and tin, and the whole place and neighborhood assumes rapidly a squalid and unkept appearance. The spaces which are left between the houses, ostensibly for light and air, are similarly not a success. Few builders leave sufficient space between houses to make the detached house worth while. As a rule not more than three feet is left between houses, and in many cases not even that. This is entirely inadequate as a means of furnishing light. does, of course, improve the ventilation, but these small narrow spaces between the buildings rapidly become gathering places for the cast-off material of the neighborhood. They are eye-sores and a distinct detriment to the whole community. It would be far better in most cities if the houses were built solidly against each other. The danger from fire, too, would even be less, especially in the case of brick buildings. Unless at least fifteen feet can be left between houses the detached house should be discouraged. Anything less than this will not give adequate light.

It will be seen from a consideration of questions involved that the desirable depth of lot depends largely on the uses to which the neighborhood is to be put. For high-class residence purposes lots should be one hundred and twenty-five feet deep; for the homes of the better paid artisans and mechanics lots should be fifty feet deep; for the homes of the unskilled laborer and what we call "the poor" the lots should be twenty-five feet in depth.

So far as the block unit is concerned, this would mean where there are no alleys, block units of respectively two hundred and fifty feet, one hundred feet and twenty-five feet. How radical a departure this is from our present practice in all our cities is obvious. The mere proposition that lots and blocks should be on a different basis in different parts of the town and that the town should be laid out with reference to the purposes of its use in itself marks a revolu-

tionary step in city planning as practiced in America, and yet unless this is done we cannot reasonably say that we are practicing city planning. If we are to continue with the old hit-or-miss method of laying out the whole city on one basis, knowing that ultimately neighborhood after neighborhood will be put to uses for which it was not originally intended, we must expect to see continue the evils from which we now suffer and to see them increase rapidly.

So far, in the discussion of this question, there has been no mention made of the part which a system of allevs plays in the block plan of the city. The alley is both a blessing and a curse. As a means of letting light and air into the interior of city blocks that would otherwise be without it. it is a distinct gain. And the few cities that have no alleys feel their misfortune in this regard most keenly. small, pocketed back yards, shut away from the free current of air, are unknown in the city with alleys. The alley is generally, however, an evil. As a minor street, hidden away at the rear of everything, it becomes the dumping-ground for all the cast-off material of humanity. Here will be found collected, in all stages of picturesque disorder and sordid squalor, all of the unpleasant things of our material existence.

The privies generally are close to it. Piles of manure, those pest factories which breed uncontrolled the typhoid fly by myriads, frequently overflow into it. Uncollected garbage, in the hot summer months, lies there in decaying heaps. Surface water, slops, wash-tub emptyings, leakage from privies and from stables cover the surface with slime. Old paper, tin cans, rubbish, and refuse of every kind are everywhere; huge rats, living and dead, add to the general horror.

In many cases, these are the playgrounds of the children of the working people. In some they are the only approach to their homes, the sole outlook upon life they get from the windows of their dwelling places. And we wonder at the

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improvidence of the poor, at their inebriety, at their shiftlessness! We are surprised at the burdens which the State has to bear in the support of the defective and delinquent.

Unpaved, as most alleys are, the cleaning often is a difficult problem. This difficulty is greatly enhanced by the fact that in most cities the city itself assumes no responsibility for their cleanliness, but looks to the abutting property owner to perform this function. The result is what might be expected. We years ago passed beyond that stage of our development where we imposed on private citizens the responsibility for cleaning the streets in front of their houses, but we still, in many cities, foolishly expect them to clean the streets in the rear. In few cities are the alleys policed or lighted at night. They become often, therefore, the haunt of criminals, and naturally lend themselves to practices which shun the light.

All of these evil conditions are well recognized in most of our cities. In our large cities to-day the alley is part of the general street system, and I know of no city in which it exists where it is not a distinct sanitary evil. Of the forty-five cities which made returns to the questionnaire, above referred to, twenty-five or over half reported that a system of alleys was general in their community. It is interesting to find that in several of them, as in Cleveland and Kansas City, Mo., for instance, they report that in the old part of the city the alley system is general, but that alleys do not exist in the new.

So far as the alleys are concerned there is much replanning to be done in our American cities. The alley problem is a problem distinct in itself and yet one that must be grappled with if our cities are to progress.

Fortunately it is a problem that can be solved without very great difficulty. It means generally that the city should become owner of the fee where it does not already possess it, should convert the alleys into minor streets and assume all responsibility for them, should pave them, should keep them clean, should see that they are lighted and that

they are policed. When these things are done the alleys will cease to be a menace.

The remaining point at which city planning touches housing reform is in the regulation of the height of buildings and their relation to the streets on which the buildings abut. Involved in this is the vexed question of high buildings. The tendency toward high buildings is apparently increasing each year in most of our cities. In few cities, however, has this as yet become general as it has in New York. This is fortunate. The isolated high building is, of course, in no sense a detriment to the community but, on the contrary, from many points of view must be considered as distinctly advantageous. It is but natural that in all of our prosperous and growing cities there should be a desire to erect tall, modern hotels, which will give to their patrons the accommodations that the American people have become accustomed to and which are only possible with the concentrated use of land. It is useless for anyone to think that he can successfully stem the tendency in this direction. Hotels of ten stories and more are bound to be built in all of our large cities, and occasionally high office buildings.

As already pointed out, these buildings, if isolated or built in small numbers, do little harm. It is only when this becomes the general practice, when one tall building succeeds another in continuous rows along a thoroughfare, that we have conditions which should give us serious concern, and it is because of the ultimate tendency in this direction that we need to exert especial care in regulating the height of buildings in our cities.

New York is now coming to realize, as it has never realized before, the unwisdom of its failure to control properly these tendencies of recent years. Unquestionably many of the problems which now confront us are due largely to this lack of foresight. The almost insurmountable transit problem of that city can be traced largely to the concentration of business in tall buildings ranging from twenty to fifty

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stories in height in the lower portion of the city. Similarly, we are finding lower Fifth Avenue, and indeed gradually upper Fifth Avenue, being converted into a vast canyon by buildings from ten to twenty stories in height. The country has recently been deeply stirred to a sense of the menace of the tall factory building through the disaster in Washington Place, where one hundred and forty-five lives were lost in panic and fire.

The tall building means concentration of population. It may mean also congestion of population. It means, when it becomes general, lack of sufficient light and ventilation. It means subjecting thousands of people to working under artificial conditions, with forced ventilation and electric light instead of daylight; it means undue crowding of streets and thoroughfares; it means complication of transit problems; it means as a rule high rents, and therefore materially increases the cost of living. In most cities such a concentration of population is unnecessary. In all our cities, with the exception of New York, there is ample room to spread out in all directions, and the tall building is not always a paying investment.

Admitting that the tall building as a general city development is not desirable, which I appreciate may not be admitted by all, the question arises how are we to control this situation effectively? What measures can city planners adopt to check a tendency of this kind, or to so lay out the city that evil results from it will be minimized?

Heretofore, in laying out our cities, little thought has been given to this question. Streets have been laid out on a certain width with no thought in view except that the buildings which front upon them would be buildings of two and three stories in height, such as prevailed at the time the plan was made. There is no evidence in connection with the plan of any city in America which tends to show that the persons responsible for the city plan had ever contemplated that its streets would be lined on either side by buildings ten or twenty stories in height. This is, of course, a comparatively

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recent development, made possible only by the use of the skeleton-construction steel frame building. That it plays a vital important part in city planning is at once obvious. A street sixty feet in width may be ample with three-story buildings on each side of it but may be entirely inadequate when built up with ten-story buildings.

What, therefore, is the desirable width of street in most of our American cities, so far as the relation of the street to the buildings which front upon it is concerned? Others who take part in this conference will discuss the desirable width of streets in connection with the uses to which the streets are to be put. The only thing which concerns us in this paper, therefore, is the relation of the

street width to the height of buildings.

As tall buildings bring so many evils in their train, I think we all agree that they should be discouraged as a general city development. We should, therefore, fix our street widths more with reference to the uses to which they are to be put than with regard to the height of the buildings that are to be erected upon them, and should in our building laws control the height of buildings that are permitted upon streets of a given width. In other words, we should let the street width determine the height of buildings rather than attempt to fix the width of streets in anticipation of the height of buildings that will be erected thereon, though of course that determination should be given consideration so far as may be practicable.

Assuming this situation, the question then arises: What is the practicable method of regulating the height of buildings with regard to the width of the street, and how can it best be done? Heretofore, in America, there has been little attempt to do this. There are almost no cities where there is any general limitation of the height of all buildings relative to the width of streets. The chief efforts that have been made have been in our tenement-house laws where the height has usually been limited to one and one-half times the width of the street. As the majority of our tenement-house laws

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are copies of the New York statute this is not at all illuminating nor satisfactory. There are few cities in America where the standard of one and one-half times the width of street is either adequate or appropriate. In practically no city except New York and Boston is it not feasible at the present day to limit the height of future buildings to the width of the street on which they abut. This means that on the sixty-foot street, which seems to be the average for most American cities, buildings would be limited to sixty feet in height. This would mean six-story buildings.

We should not permit in any of our cities buildings of a greater height than sixty feet. Where it is necessary to build a few isolated buildings such as hotels or office buildings to a height of ten stories, or even more, special districts should be established, limited in area, in which such buildings may be erected. The rest of the city should be allowed to develop along normal and reasonable lines, and the height of

sixty feet is all that should be allowed.

Limiting the height of buildings to the width of street, however, will not bring this about in the case of streets which exceed eighty feet in width, as frequently happens. With such limitation it would be possible on many of the broad avenues and boulevards, which are a feature of our cities, to erect buildings of one hundred or even one hundred and fifty feet in height. It is highly undesirable to permit this, and there should therefore be in our laws seeking to control this situation a definite maximum height to which all buildings may be erected, irrespective of street width. In other words, a double condition should be imposed. No building (except in the limited and selected areas above mentioned) should be permitted to exceed the width of the street, and in no case should they exceed sixty feet in height.

The European method of regulating height of buildings has had the same underlying principles but is generally expressed in a different form. There the height is controlled by stating that no building shall be built to such height that any point of it shall cross a line drawn from the middle of

the street to the top of the building at an angle of so many degrees, the amount varying in different countries.

While this method of regulation will bring about very much the same results as the flat limitation relative to the width of street just discussed, it is not a sufficiently simple method of expression to commend itself to the judgment of the American people. It seems far more complicated than it really is, and does not at once give to the ordinary builder or small owner who is involved in a development proposition a quick realization of what he may be permitted to do.

A modification of this plan has been suggested by Mr. Ernest Flagg of New York, as a means of bringing about some diminution of the height of New York's tall buildings. The essence of Mr. Flagg's scheme is the encouragement of a city of towers; of permitting the building itself to be built to a certain maximum height, namely the width of the street, and then above that point to require the building to be so set back from the street line in the form of a tower as never to have the top of the building cross a line drawn at an angle of seventy-five degrees from the middle of the street.

This plan, while containing many admirable features, does not insure the protection of the light and ventilation of adjoining buildings, nor does it safeguard completely the light and ventilation of the building itself. As a compromise measure and a means of bringing about some measure of restriction in a city like New York, it has great merit. For most of our American cities, where the high building has not as yet developed, it is unnecessary and much too complicated. Here it is still possible for us to restrict the height of buildings upon the simple basis of width of street and maximum height in feet.

Height limitation plays a very important part in the congestion of population. The way to prevent an undue number of people from living on a given area of land is in not permitting the building to be built too deep on the lot or too high in the air. If a building six stories high is designed for two families on a floor it will normally be occupied by

twelve families. If that building is permitted to be built nine stories high, the concentration of the population has been thus increased fifty per cent. The most simple, practical way, therefore, to prevent land overcrowding is by these two means, and it is from this point of view that the regulation of height assumes an aspect of special importance. City planning, therefore, has a real and important bearing on the housing problem. It can, so far as the architectural problem is concerned, exert a deep and lasting influence, but to bring this about there must be real city

planning.

There must be the definitely conscious purpose of bringing about a system of classification of buildings within the city, and the laying out of the city and its buildings with regard to the uses to which different parts of the town are to be put. Unless this is done, city planning as we understand it in America will have little effect on the housing problem. We may establish civic centers; we may have public buildings of rare architectural beauty placed in those positions where they will beautify and adorn the city; we may have streets and arteries of traffic so laid out as to facilitate most readily the movement of the city's population; we may have landscape architecture of the most appropriate kind; we may have the city's waterways developed in a way which not only add to the city's adornment but to its practical and serviceable value; yet, unless with all of these elements of city planning there goes at the same time the determination of the rational depth of lot and the adaptation of street widths to height of buildings, the establishment of a practical and rational zone system, the division of the town into quarters for various definite uses, we shall have done little toward remedying the worst conditions which confront us to-day as a result of the lack of a definite city plan.

DISCUSSION

MR. RAYMOND UNWIN, F. R. I. B. A., London, England: I have learned very much from the able paper which we have heard from the chairman of this section. I have learned some things which astonish me, and I cannot agree with all that has fallen from the lips of the speaker. I am more hopeful than he is, and believe that city planning can do more for the housing question than he seems to believe. I have learned that countries which enjoy great privileges are apt to value them less than those which have not those privileges. I find one of your great housing reformers has laid down the idea that at the back of your tenement there should be a space of not less than ten feet wide. I suppose the United States could put the whole of England in its waistcoat pocket; but in that little country which has a population infinitely denser than yours to the square mile, we generally keep an open space fifteen feet wide at the back of each tenement, and fifteen feet at the back of the opposite tenement, making a space thirty feet wide between the buildings in the very heart of our towns. These buildings have been constructed under our older forms of building restrictions, and they are usually not more than three stories high. Certainly you must enlarge your ideals as to air space very greatly.

The basis of all good city planning is the home of the citizen: the city is a place for citizens to dwell in. There are two really satisfactory forms of city dwelling: first, the self-contained, or cottage dwelling, as we know it in England, having attached to it sufficient ground to secure ample air and sunlight for the rooms, and to provide space in the open air for the children to play. There is also that form which consists of a group of homes combined within one building, in order that to greater or less extent the benefit of sharing various opportunities and conveniences, which cannot easily be provided for individual cottages, may be obtained. One of the essentials of such a dwelling,

whether it approaches in character the block of tenements or the hotel, is that there shall be adjacent to it sufficient open ground to provide again ample fresh air and sunlight for all the rooms, and to provide some open air recreation

space for the children living in the building.

There is one justification and one only for limiting the individual freedom in many ways, as we must do in city life, namely, that the citizen should be given wider opportunities than he could otherwise obtain and a fuller life. The block tenement dwelling of the type which we find prevailing in some great American cities, so quickly developing as the main feature in German cities and tending to displace the single dwelling in some large English towns, fulfills none of these requirements. It is the most unhealthy, the most inconvenient dwelling that we know of, and it is the one most completely cut off from amenity of surrounding, the most difficult with which to associate any sense of home, and absolutely the most miserable type of place in which children can be reared. Probably the pressure in the central areas of large cities will prevent the adoption within those areas of the cottage type of dwelling; and what we must look forward to eventually securing there, is the creation of some form of associated dwelling which will consist of a number of homes with certain common rooms and conveniences under one roof. and having in connection with it a sufficient recreation ground, an open space of some kind. At present, however, the pressure of population renders even this unattainable.

The first and most urgent problem, therefore, is to relieve this pressure to some extent; and this can only be done by carrying some of the population into the suburbs and there housing them in better conditions. This is the line of action that has been advocated in England by those associated with the Garden City, and Garden Suburb movement. It is this policy which has now been definitely adopted as a result of the agitation and experiments carried out by its exponents; and it is to give our municipal

bodies the necessary powers to control their city development in this direction that Mr. John Burns has prepared and put on the statute book the Town Planning Act. It is the working out of the best form for these new residential areas which has interested me, and about which I should like to speak.

Two distinct efforts have been made in England. One is to develop entirely new towns at some little distance outside great centers of population. Such an experiment is in existence at Letchworth, about forty miles from London, where already an industrial population of nearly seven thousand people has gathered on an estate of about thirty-eight hundred acres. The central area has been laid out to accommodate thirty thousand, and the remaining area is devoted to agricultural purposes. It has been found possible to induce manufacturers to move with their work-people out of London, or to settle at Letchworth instead of going to London; and in proof of the great gain to the industrial population in health and efficiency. I may mention that the death rate at Letchworth is only four and two-tenths per thousand, the death rate in London being fourteen per thousand. In addition to Letchworth, there are many smaller garden villages, more or less intimately connected in many cases with individual industrial enterprises, such as Bournville, promoted by Mr. Cadbury; Port Sunlight by Mr. Lever; Earswick, near York, by Mr. Rowntree; and there are others which are being developed by the interesting co-partnership tenant societies. There is in the second place the definite garden suburb movement, the aim of which is to put a stop to that haphazard and congested development which has been taking place all around our growing towns during the last century, and to substitute for it the orderly development on a pre-arranged plan of garden suburbs, provided with ample open spaces and limiting the number of houses to be built on an acre and the size of those houses, so that congestion of population in the future may be

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rendered impossible. It is by means of the rapid development of garden suburbs on the outskirts of existing towns that I believe the pressure of population in the central areas may be reduced, and that so it may become possible to reorganize the type of dwelling in areas also in the future. In the first instance this may perhaps be done by opening up the back yards and removing tenements that have been intruded into them, and by taking out a block here and there, and the creation, on the ground thus liberated, of recreation grounds for the use of those living in the tenements left behind.

One of the chief of these garden suburbs in which there chanced to be a favorable opportunity of experimenting in different types of buildings and in the treatment of the streets is that of the Hampstead Garden Suburb, which is situated on the north side of Hampstead Heath, about five miles from the city of London. Here an area at first consisting of two hundred and forty acres, which is now being extended by an additional four hundred acres, was laid out with a view to providing residences for all classes of inhabitants. The maximum number of houses which it was arranged to build on any acre was twelve. The land cost about twenty-five hundred dollars per acre; the Hampstead Garden Suburb Trust, which was promoted mainly by the activity of Mrs. Barnett, the wife of Canon Barnett, both so well-known in connection with the Toynbee Hall movement and which is presided over by the Rt. Hon. Alfred Lyttelton, were the purchasers of the estate. They have laid it out, made the roads, settled the position and size of all the buildings and their character, and have framed certain regulations as to type of buildings to be erected in each part. They lease the land to individuals who may build houses, and more extensively to certain development companies, most extensively of all to the co-partnership tenants who have been developing very rapidly in the scope of their operations, and are now building not only cottages for the industrial population, but larger houses

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for the middle and professional classes. The first part of the work, that dealing with the two hundred and forty acres, is now so far advanced that one can speak pretty certainly of the financial result, and we confidently look forward to paying our shareholders five per cent which is the maximum dividend allowed by the articles of association, and we expect to have a surplus of over twenty thousand dollars per annum to devote to the up-keep of open spaces, the beautifying of the estate, and the promotion of other similar schemes, the only objects to which such

surplus may be devoted.

In city planning, whether applied on a large scale to a whole city or on a smaller scale to the development of a suburb, there are three great considerations: first, there is the life of the community, for which an outward form of expression is required. This is the root and basis of the whole work. The study of the social condition of this community cannot be too thorough; the realization of the best ideals of the commonwealth cannot be too complete; for the city planner should be simply the channel or medium through which this life and these ideals find There is, second, the site upon which this expression. community is to dwell. I have hitherto in this country seen only the sites of two of your cities - Boston and New York: what magnificent sites they are; what splendid opportunities they offer! If it were still possible to crown the height of Boston around the old Capitol building with a cluster of its great public buildings which would dominate the whole city, as, for example, Amiens is dominated by its cathedral, what a chance for a fine civic center, up to which the town would naturally lead, and around which it naturally disposes itself! We may compare Berlin disposed around the Unter den Linden and the groups of buildings at each end of it, or Paris around the Champs Elvsées: but the sites of Paris and Berlin are tame indeed, compared with the sites of Boston and New York! The designer then must study the site. He

must approach it in a spirit of reverence for its beauty and appreciation of the opportunities it offers. Finally, there is the detailed design which is to be the means of expressing the life of the community in a form at once adapted to the site and in itself suitable and dignified. If the city is to become worthy to be called a fine city, then surely that form must be beautiful also. This final stage of town planning presents an architectural problem, for in the complete town it is the buildings which are seen and produce whatever effect, good or bad, is obtained. For the design of this town planning the architecturally trained mind is as essential as for the design of a single building, for the work consists in applying upon a wider field and with greater scope the same principle which governs the designing of individual buildings. The appreciation of the relation of masses and voids, the apprehension of the right points for emphasis, and the power to combine into one creation many different parts by bringing them into harmonious proportions, are equally required in the field of town planning if we are to attain that beauty and grandeur which should characterize great cities.

The chairman has taken for granted that it is quite the right thing to limit the depth of a building plot, to say to a man that he shall not have a piece of ground for garden, yard or open space. Why? Because it is difficult to prevent some evil-minded persons from erecting stables or shacks at the back of the house. It seems to me, however, that this and the other difficulties which the chairman put forward as to the arrangement of lots, arise partly from want of proper control of the unscrupulous plot owner and partly from a wrong system of city planning. I should not be disposed to criticise your system because your roads are straight, but I should be disposed to criticise it because it has not been considered as a whole design. Your streets run in the same direction all over the town and at the same distances apart. Now a town does not consist of a series of buildings of one class, it consists of

a series of different quarters required for different purposes, which in turn require different sized and shaped building sites, different widths of roads and altogether different treatment. If the plan is laid out on the principle of main and subsidiary centers, and a framework of main roads connecting them, the intervening spaces being divided by minor roads to suit the special requirements of each district, this will tend greatly to give stability to the character of each area; while in the less frequent cases when change must occur it will be comparatively simple to rearrange the spaces between these main roads as the character of the area changes. The occasional rearrangement of a few minor streets would surely be much better than to saddle dwellings with the great expense of constructing a street in front and a street behind merely to secure some open space. Streets are the most expensive and the most disagreeable form of open space that it has entered into the heart of man to conceive.

I agree with the chairman that city planning is not a panacea. I appreciate the enormous difficulty in this country due to the great generosity of your nation in receiving in an open-handed way the emigrants from all our overcrowded European cities, but I do believe that proper city planning is the key to the situation.

A design for a town plan, like any other design, does not consist of mere repetition; it must have its center point where emphasis is concentrated, its framework or skeleton of main roads, giving free communication in different directions, its secondary and tertiary roads and streets, providing for minor routes of communication, and finally for convenient access to every building. These should be laid out in the order given so that the proper relationship may be maintained. The secondary roads should be so planned as to lead into the main roads either at right angles or in carefully studied road junctions. The beauty of a town depends largely on the treatment of its corners and road junctions, and it is the great defect of a design

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based on a series of diagonal routes for main roads, superimposed upon a gridiron or checkerboard plan for minor roads, that the facades along the main roads are destroyed by the awkward angles at which the minor roads enter them: curved roads and straight roads may both be used in a design. Curved roads may be treated formally just as straight roads may be extremely informal. Each type has a special beauty and affords its own opportunities. The straight road gives the most dignified approach to a main building which will fittingly terminate the vista and close the picture, but a series of indefinitely prolonged straight roads do not produce beautiful street pictures, and are not desirable except where they keep open some distant prospect of mountain scenery, open sea, dominating building or other similar feature of beauty or interest. Curved streets are more readily adapted to undulating sites, produce a constantly varying street picture, and, on the concave side, afford a more extended view of the street façade seen at an angle sufficiently wide for the view to be interesting. A very beautiful and even picturesque town design may, however, be made, if the site is suitable, entirely of straight streets, provided that sufficient variety in the design itself is secured, and sufficient terminal features to close the street vista are provided. Breaks in the building line along the street so that some portion of the side elevations of buildings stand nearly square with the line of vision of the beholder, may add greatly to the effectiveness and picturesqueness of straight streets. In fact, the designer must think much more in building their masses and groups than merely in street lines. The placing of the buildings and the designing of the building line, the piling up of the masses on the hillsides and the orderly display of their elevations on the plains, constitute the æsthetic problem of town planning. The principles are simply the principles of architecture applied on an extended field, and apply equally whether it is a central town area or a residential suburb that is dealt with.

In our residential suburbs the conditions of modern traffic render the frontages to main roads increasingly unsuitable for dwellings. It is desirable to group the residences as much as possible upon quiet side streets having immediate access to the main thoroughfares but removed from the dust, noise, and smell of motor and other traffic. These roads affording no opportunity of through traffic, may be narrow in width and light in construction, provided that adequate distance between the buildings is maintained, and the cost and the ground area thus saved may be devoted to increasing the width of the main thoroughfares, providing additional open spaces and reducing the number of houses to be erected on each acre of ground. This is one of the most vital points, and I have been recently investigating this question to see to what extent economic conditions justify the overcrowding of dwellings upon the land, and I would like to commend to your consideration certain diagrams and figures connected with the subject which I have worked out; because I think it is not generally realized, certainly I had not fully realized the comparatively small financial gain that results from crowding houses upon land; and the utter insignificance of this gain if there is set against it the rapid diminution in the size of the building plot. The fact is that the area of the land is so rapidly taken up by the additional streets required to give access to the additional houses, and the cost of roadmaking per acre rises so rapidly with the increasing number of houses, that to secure the same return to the original landlord, while it is true that the cost of land and roads per plot is somewhat reduced, it is also true that the price which the tenant must pay for his plot for each yard of actually available land rises enormously. We will take an example worked out and embodied in a general diagram. Assuming certain cost of land and roads which would be correct in many English suburban areas, I find with twenty-five houses to the acre the tenant will pay fifteen cents per week ground rent for one hundred and

twenty-seven square vards of land; while if the houses were reduced to nine and six tenths to the acre, to give the landlord the same return the tenant would only have to pay twenty-five cents per week for four hundred and twentythree square yards, which in terms of purchase is at the rate of one dollar and fifty-eight cents per vard in the first case and seventy-six cents per yard in the second case. other words, while the cost per plot has only increased by sixty-eight per cent, by reducing the number of houses from twenty-five to nine and six-tenths the area of the plot has increased by over three hundred and thirty-three per cent. It is, however, not necessary or reasonable that the same price should be paid for land with a restriction on its use that only a limited number of houses may be built upon it. From the point of view of the owners of land, if the number of houses that may be built on an acre is reduced by half, the number of acres that will be required each year to house the growth of population will be doubled, and therefore double the number of acres will be raised from agricultural value to building value. Apart from the fact that land when privately owned is a natural monopoly, and that, therefore, the owners of land can practically compel the citizens of a town to pay the utmost which they can afford for a mere stand upon which to erect a dwelling, it is inconceivable that the citizens would be foolish enough to pay fifteen cents for one hundred and twenty-seven yards when they could have four hundred and twenty-three yards, considerably more than three times the amount, for the expenditure of twenty-five cents. Can you imagine any citizen purchasing one hundred and twenty-seven pounds of flour for fifteen cents when he is offered around the corner, in another shop, four hundred and twenty-three pounds of the same flour for twenty-five cents? To put it quite shortly, it is the aim of the Garden City movement to offer to the citizens of our great towns this four hundred and twenty-three yards for his house and garden for a ground rent of twenty-five cents per week, or less, in place of the

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miserable plot of one hundred and twenty-seven yards or less for which he is now compelled to pay fifteen cents. These figures are, of course, based on calculations which apply to English conditions, but the principle is equally true in America; and I most earnestly commend to your consideration the method I have referred to of relieving the congestion in your American cities, a congestion which if you were to allow it to continue would inevitably ruin your great democracy.

MR. IRVING K. POND, President A. I. A., Chicago, Ill.:

Mr. Veiller, in his most admirable and comprehensive study of the subject of "buildings in relation to street and site," has found it impossible, and quite naturally so, to divorce or ignore the general problem of city planning, so in discussing his paper I may be pardoned for referring to the topic. Unfortunately - or otherwise - cities grow - are not made. It is possible for man, in a way, to direct the growth, but some unseen and not altogether directable or amenable force determines the growth. However fascinating the occupation may be, it is rather futile for the bride and groom, off on the honeymoon, to determine absolutely that the first-born shall be a boy who shall become president of the United States. That unfortunate off-spring may be a girl-baby, born in Canada on a hasty trip between Buffalo and Detroit. The first limitation may be removed at some distant date, but the second is apt to obtain for a long time to come, to obstruct these pleasingly proud parental prophecies or designs. Cities that were born and consecrated to the highest of social and domestic ideals have had their complexions changed by the invasion of manufacturers of face powders and goggles, and grease rags and dust coats and the machines which accompany them. Not only has the growth of one industry changed the aspect of certain cities, but it has compelled and altered the development of avenues of intercommunication both in their physical and in their æsthetic characteristics.

Even the farmer's barn has, of necessity, been reconstructed and reoriented! Will not the development of the flying machine change the aspect of our cities; require the lowering of the sky scraper and the lifting of the tenement; require the elimination of our spires and other material symbols of spiritual aspiration so that the up-bearing of the body may be accomplished in safety! But, seriously, while it is not profitable for the fond and doting parent to seek to shape unalterably the ultimate end of his offspring, it is well that he mark general and individual characteristics and tendencies, and guide in their rational and logical development.

The site of many an important city has been determined quite by accident, and its plan has been rather a matter of happening than of design; so our problem in most cases is more along the lines of reconstruction than of redesign. Contours and natural avenues of approach have been the determining factors in many a city plan, and have to be reckoned with in modern design, and especially so in modern reconstruction where the avenues have been highly Railway systems and railway yards may be almost as much controlling factors as are lakes and rivers, and this bears upon the subject under discussion in that it suggests the fundamental principle of adapting the logical building to the natural site - perhaps one would better say: the adapting of the particular building to the logical site. The dedication of certain districts or areas to certain uses is cardinal in what I conceive to be a proper theory of city plan and reconstruction.

In following the principle the matter of heights almost settles itself as in a measure does the matter of areas to be covered by building and left for yards. Steam or electric lines of freight transportation or of trunk passenger transportation might well be lined with storage warehouse and manufacturing buildings of any height, say of an extreme height, proportioned in height, however, inversely to the number of persons to be employed in a given area and

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inversely to the narrowness of the streets on which they give. Contiguous to this district should be that occupied by the workers and operatives, built up as compactly as the laws of sanitation will permit, with increasing openness of spaces as the homes become a bit larger and more individual in character. The same principle applies to the development of the wholesale and the commercial district, and even to the shopping district. It insures an economic saving in demanding the destruction of lesser values to prepare for greater. So much for that phase.

When it comes to the subdivision of these districts, whether the city plan be gridiron or radial or the one superimposed on the other, I believe in the economy and general practicability of the larger block unit. It permits larger floor area for factories, warehouses and commercial buildings; it permits of ground and landscape about the better dwellings; it allows of a subdivision which shall permit shallow dwellings to face in two directions upon courts, not upon streets but courts, intersecting lines of transportation. That these courts shall be under the jurisdiction of the city if the homes are held individually (which they probably would not be) goes without saying. The court in the rear should be the service court, narrower than the front which should furnish the breathing space - safe for the children and acceptable to the grown-ups. As these courts approach the better residence district grass and shrubs and flowers should be in evidence - more and more in evidence. I imagine window gardens will be found to add charm and brightness to the barer courts (I may interject that the owner or architect who will not make these tenement houses as attractive as possible should be condemned to dwell therein, or in the jail). I believe distinctly in the service court or alley; kept clean, policed and lighted, possibly closed at night, but adequate to its functions. With this idea controlling, there can be no slums as we know the term.

After all, in all this matter of city planning, and the re-

lation of buildings to streets and site, we are not so concerned with the owners of the fine houses and large grounds, — they can well be relied upon to protect themselves, — but we are concerned that the mothers of the tenements may have their burdens lightened, and the children of the tenements may have sunlight and air and grass and flowers and the convenient and easily accessible public playgrounds. So every factory district — every tenement district — should be provided with open spaces in liberal proportion to the population. The eyes of the people are opening and conferences like this, and papers such as Mr. Veiller's and the discussion they evoke, will animate the people to concerted and beneficent action.

Mr. Grosvenor Atterbury, F. A. I. A., New York City:
In reply to what has just been said regarding Mr. Veiller's recommendation to do away entirely with back yards in a certain type of housing, I want to say a word to Mr. Unwin, because he comes from a country where people, I think, are much more docile, not to say more orderly and of better æsthetic instinct, than they are here. I don't think he realizes what bad bedfellows Liberty, Equality and Fraternity are. In his country people live in nestling towns, with hundreds of roofs all of one color. Here, the aspiring individual is apt to want a hundred colors on his one roof; and it is unwise, from our point of view, to discourage him, because it is the first step up and out of a degradation from which this country is rising in the matter of artistic taste.

It is curious and lamentable, but I think a fact, that if you give one fellow a liberty, you have got to give the other fellow a protection. If we could write tenement and building codes assuming an honest administration and an honest contractor and an honest owner, we should not have to have any building code at all, — we might simply say that anything that is good housing and construction will be passed. But we have to write such codes on the basis of

everyone's attempting to do something he ought not. In protecting the citizen in general against the bad contractor and the bad owner and the bad department official, we tax most heavily the honest people. In a similar way the "back yard" is so abused by many of the poorest class that it may well be better for the present to deny the privilege to everyone in certain grades of housing. Of course we want to give a person the right to have a back vard if he can maintain it. But the best we can do is to work on our own human equation, and it is true that the human equation in this country is characteristically different from that of other countries. Congestion in a room ten by ten depends largely on the people who live in it. In the same way the question as to whether a person can maintain a garden on a small lot is not dependent on the lot alone, but on the person; and the class that can do so here is not necessarily the same that can do so in England.

One word more in direct comment on Mr. Veiller's paper: The city plan, like all other complex organisms, being composed of units, is largely determined by their shape, individuality and character. When Mr. Veiller says that city planning, therefore, has a real and important bearing on the housing problem, I want to call attention to the fact that in my judgment the connection is absolutely vital. City planning has a bearing on the housing problem just as a great tree has a bearing on the roots that bring it forth. The housing problem has produced the necessity of the city plan. The city plan as we see it here in the exhibition is so obviously fine and inspiring that we may forget the importance of the housing unit. What I say now is to emphasize the prime importance in city planning of the individual domestic unit. We want the basic element, the home, not to be forgotten when we lay such emphasis on the mall, the court house, and the city hall.

Mr. Thomas Adams, Town Planning Expert, Local Government Board, England:

I should like to try to strike a little note of optimism after the somewhat fatalistic remarks we have heard regarding the necessity of the tenement system. I think it is one of the peculiarities in America that you find a very paradoxical state of opinion on this subject. You go to someone living in his delightful home, with a beautiful garden surrounding it, and he tells you that the people who live in the slums do not want gardens; and that the economical problem of giving them gardens is so vast that it is impossible to deal with it. Then you go down into these slums and you will find people trying to grow potatoes in a box one foot square, or trying to grow vines in a back vard nine feet by six feet, with a high wall surrounding it; and these people will tell you that they are living under these conditions only because they cannot do otherwise. They are paying for these houses double the rents which are paid for the beautiful homes with their beautiful gardens which the same class is enjoying in England. And I refuse to accept the pessimistic note of Mr. Atterbury's able paper. We are not docile in England. It is you we regard as docile if you accept these conditions. We refuse to accept the prophecy that everyone who cannot pay more than eight or nine dollars per month rent must live in a tenement house.

Furthermore, I do not think the statement that the city grows like Topsy should be accepted. Cities are the most artificial part of our civilization. They are created at every point. We fix the lines of our streets; we put up ugly lampposts; we put up ugly buildings, and do everything that is necessary to make the cities objectionable. I contend that it is quite possible to direct the growth of the city in the right way; quite possible to insist that the street shall be built of the width necessary for the houses to be erected upon it. And just this is what our town planning in Eng-

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land is aiming to accomplish — the direction of the growth of our cities into its suburbs.

The alternative is not between no land and the tenement system. I find, from calculating, that if you go far enough out from the large city, your land is as cheap as land surrounding the big cities in England. You have considerable difficulty, particularly in New York City, in getting the people to these areas of comparatively cheap land. Your transportation has become a problem of enormous difficulty because of the congestion in the central area, but in London, where our population is spread out, we can carry our people quickly along the ground and get them as quickly ten miles out as in some of your cities you can get them two or three miles. Transportation is not a question of distance, it is a question of time, and the question of housing your people is most intimately dependent on proper town planning and an adequate system of transportation.

MR. LAWRENCE VEILLER:

I am heartily in sympathy with the ideals expressed in the discussion which I look upon as part of my own, and vet I cannot help considering what is actually going on in the city of Philadelphia and state of Pennsylvania at this moment. I am not going to talk about ideals when I find it is impossible to get the common live elements of civilization enacted in law. How many people in this room know that the great mass of people in Philadelphia have no right to water in their houses? It is all very well for us to say that they ought to have it. How many people in this room have lifted their hands to pass the Spigot Bill? The great health department of this city has no authority to enter private dwellings to prevent unsanitary conditions. Legislature has accorded the city a right of inspection in the case of tenement houses, which Philadelphia does not have to any appreciable extent, and it refuses the right of inspection in the homes.

We are just in the kindergarten stage of housing reform

in most of our American cities. We are not able, as a matter of compulsory legislation, under the constitutions existing in the various states, and with the spirit of our people, to bring about proper street spacing. Mr. Unwin has said that a distinguished American housing reformer sets up as his ideal a back yard containing fifteen square feet. As a matter of fact our laws in America with regard to the size of back yards are almost as good as they are in England and our practices in America are infinitely better. In the greater number of our American cities now, including New York and Boston, we have got large open spaces from twenty-five to forty feet in depth in the rear of the tenement. Legislation does not make our back vards adequate, but that is not very material since the owners provide them of their own volition. The point I had hoped to make was that these back yards had become the gathering place of all the waste material of the community. This is not peculiar to any city, it is general in all of our cities with a foreign population.

Again, with regard to some of the English conditions, the low buildings, good as they are, of London have brought about an evil of overcrowding that we don't know in America. We have got our little overcrowding in New York and other cities, but nothing like the London overcrowding. Furthermore, so far as sanitary control is concerned, English legislation is fifty years behind American. They have not the law for a system of inspection, and the people resent such inspection of occupied houses.

I am very much interested to see the overwhelming wave of public sentiment in opposition to the ideas I have presented. That wave represents sentiment — nothing but sentiment — and it is very encouraging to the men who are doing the practical hard work in the field. We have the sentiment just as much as you have. We started with it, and we have not lost it, but public sentiment will get very narrow unless it is directed along practical lines. If we are not to differentiate our lots for well-to-do people, for highly

paid mechanics and for the common laborer; if we are not to divide our cities into different quarters with different regulations because of different use; if we are not to standardize our lot depths, but continue to leave back yards unregulated as in the past, what practical suggestions have you to offer in the place of those that are made? Are we to have a perfectly hit or miss method in the layout of our city, or one uniform scheme for all classes of people? If so, it seems to me that we are flying in the face of past experience. We must direct the ideal into practical channels if we wish to get results.

The general discussion was participated in by Mr. Arnold W. Brunner, New York City; Mr. Thomas Adams, London, England; Mr. Edward A. Kent, Buffalo, N. Y.; Mr. George B. Ford, New York City; Mr. Henry Read, Denver, Colo.; and Mr. Frederick L. Olmsted, Brookline, Mass. The principal points brought out were as follows:

City planning and housing are most intimately connected at three points, — depth of block, height of buildings and alleys. City planning should so arrange streets and divide lots as to eliminate deep back yards in the poorer quarters, which are the source of most of our housing evils as far as they relate to land overcrowding. This necessitates dividing the residence districts into zones, each of which shall have its particular depth of lot. In the poorest quarters the lots should be shallowest, perhaps only twenty-five feet deep, with streets or other municipally controlled space — which may be used as a parkway or garden or playground at either end.

If in addition, the houses or tenements, which would be located on these shallow lots, should run in a general northerly and southerly direction, every room would have sunlight for several hours, according to the evidence submitted by Monsieur Augustin Rey at the 1908 International Tuberculosis Congress, and direct sunlight for even a short period of the day would be the greatest preventative of

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tuberculosis and other germ diseases. When it is remembered that ten thousand people die yearly of tuberculosis in New York alone, the strongest possible argument for this kind of planning is found.

To meet the difficulty presented by the necessity of varying block depths the suggestion was made that a block of two hundred and fifty feet in depth should have a fifty-foot street right through the middle, thus forming on either side one hundred-foot blocks. The fifty-foot street should not be immediately constructed, nor should it necessarily be converted into a playground or park, but should be left in public ownership. In this way the conditions which call for a two hundred and fifty-foot block would be provided for, and at any time a subdivision into one hundred-foot blocks could be made. The fifty-foot strip in the middle of the block, or a strip of varying width, might be used privately for gardens until such time as it should be needed for public use.

BUILDINGS IN RELATION TO STREET AND SITE

City Planning Questionnaire, May, 1911

	1	1	1	1	1	1
City and Population	Street Width	Depth of Lot	Depth of Block	Alleys	Alley Width	Height in Stories
ALBANY(100,000)	66	125	250 × 660	No		2 to 3
ATLANTA	30 to 50			Yes	10 to 20	1 to 2, 3
BOSTON	30 to 200			Yes	20	80 ft. limit
(670,585) BRIDGEPORT	C. 50 to 60	C. 50 to 100		No	15 to 20	2 to 3
(102,294)	50 to 66	100 to 150	220 to 300	No	12 to 16	2 to 21
BUFFALO	50	100	200	No		21, 3, 3 to 4
(104,000)	66	125	450	Yes	14	
CHICAGO		125				30 feet
(364,463)	50 to 66		400	No	12 to 16	2, 3, 4
(560,000)	50	130	•••	Yes in old No in new Yes	12 to 20	2, 4, 6 to 8
COLUMBUS (181,511) DAYTON	Old 82.5 New 50 to 60	Old 187.5 New 150 +	Old 187.5		Old 33	Not above 4
(116,769)	50	120 to 150	600	Yes	16	2
DENVER	80	125	400	Yes	16	12 story limit
DETROIT	50 to 60	100 to 125	250 to 340	Yes	18	2, 2 to 10
FALL RIVER	40+	150	300	No	20	3
(213,331) DETROIT	66	C. 130	C. 275	Yes	15 to 20	2 to 4
INDIANAPOLIS (255,340) JERSEY CITY (267,779) KANSAS CITY, MO.	50 to 60	150	365	Yes	12 to 15	11, 2, 3
JERSEY CITY	60	100	200 × 400	No		2 to 4
KANSAS CITY, Mo.	C. 80	C. 130	C. 300 × 600	Yes in old	15	2, 3, 2 to 3
(248,381) Los Angeles (319,198)	60	150	300	No in new No	16	1, 2, 2 & 3, 3 & 4
LOUISVILLE	60	200	400	Yes	20	1 to 15
(223,928) LOWELL	40 to 75	80 to 150	150 to 1000	No	12 to 15	21
(106,000) MEMPHIS	C. 50	148	320	Yes	20	3 to 6
(131,000) MILWAUKEE (350,000)	60	120	300	Yes	15	
(350,000) NASHVILLE (110,000)	50	150	400	Yes	12	1 to 2, 2 to 3
(110,000) NEWARK	60	100	200	No	7 to 15	1 to 2, 2 to 3 2 to 3 2, 3 to 6, 3 up
NEWARK	C. 50	C. 150	400 to 500	No		
(133,300) NEW ORLEANS	50	120	300	No	20	2 to 3, 3 3 to 5 1 to 3, 2 to 5 2 to 5
(339,075) New York (4,766,883)	60	100	200	No		2, 3 8110 4,4
	100	135	300	Yes	15	4 to 15 2, 4, 4
(125,000) PATERSON, N. J (125,600)	50	100	200	No	10 to 12	3 to 5
PHILADELPHIA	1.40	40 upward	80 to 250	Yes	2½ to 4 ft.	2 to 4
(1,549,000) PITTSBURG	2.70 to 100 40, 50, 60	125	270	Yes	20	2, 3 to 4
(533,905) PORTLAND, ORE (207,000)	60 to 80	100	200	Very few		2, 3 to 4 3 to 4 1 and 2 dwellings
(207,000)						1 and 2 dwellings 2 and 3 flats 3 and 4 apartments
PROVIDENCE	40 to 50	100	200	No	C. 15	A few 5
(224,326) RICHMOND	C. 60	C. 130	264 × 365	Yes	12	1 to 10
(128,000) ROCHESTER	60	100 to 140	600	No	16	2, 4, 4
(218,149) SAN FRANCISCO (416,912)	70	125	250	No	15	1 to 3, 2 to 6.
(416,912) SCRANTON	60	160	336	Yes	16	1 to 3, 2 to 6, 2 to 6 2 to 4
(129,867) SEATTLE		120	156	Yes	16	
(150.000)	70	142	300	Yes	16	2, 3, 4
SPOKANE	60	C. 130	275 × 600	Yes	15	4 to 10
(700,000) St. Paul (215,000)	60 to 66	150	300 × 600	Yes	20	4 to 10 2, 3, 3
SVRACIISE	66	132	300	No		2, 3 to 5
(137,249) TOLEDO	60 to 100	80 to 130	270	Yes	12	
(200,000) Washington	80 to 90 Sts.	50 to 100	300 to 400	Yes	10	1½, 2 to 4 4 to 8 85 ft. limit
(331,069) WORCESTER	80 to 160 Aves.			No		
(145,986)	30			210		
						1

C = about. Height = height of buildings in stories, dwellings, flats, tenements, apartments.

CONDEMNATION, ASSESSMENTS AND TAXATION IN RELATION TO CITY PLANNING

HON. LAWSON PURDY

President Department of Taxes and Assessments. City of New York

CITY planning is sometimes considered as though it were something to be done once and for all. Some people think of a city plan as though it were like the plan for a house, never thereafter to be changed. No plan can be adopted for a city which shall be satisfactory at the start and at the same time be adapted properly to future conditions. No plan which is satisfactory for suburban residential conditions can be devised which will still be satisfactory when those residential conditions have changed and the land is devoted to business uses. Streets, which are of ample width for one period may not be half wide enough ten years later. At one period of a city's growth the travel may be east and west, as it was in the old city of New York. Fifty years later the travel north and south may be ten times greater than that east and west.

While a well-devised city plan may take into account many subsequent changes and prepare for them, it, nevertheless, remains true that city planning cannot be done once and for all but must always be in the making. Cities must continually acquire additional land for the widening of old streets, the making of new streets, the making of parks and public places. The methods then by which the power of eminent domain is to be exercised for the purpose of acquiring land for city uses have a vital bearing upon city planning. The relation of taxation to city planning is

secondary, but it has its importance as it affects the character of development and the selling value of property.

CONDEMNATION

The methods now employed in the various states for making awards to the owners of land taken for public use differ materially. In some cases methods which are reasonably satisfactory in rural communities are hopelessly bad under city conditions. The essentials of a good system are justice to the municipality and to the owner of the property, economy of operation and rapidity of execution.

In the state of New York the constitution at present provides that awards for damages for land taken for public use shall be made by three commissioners appointed by a court of record, or by a jury. Similar methods are employed in a number of other states. A description of the evils which result from this method will apply commonly elsewhere. The method is slow, costly, and, as a rule, unjust to the municipality; being unjust to the municipality it must also be unjust to the taxpayers. There have been a few cases where, even in cities, three commissioners have worked expeditiously and produced satisfactory results, but this is the very rare exception. If men were appointed by the courts to act as commissioners in condemnation, who by reason of their experience and training are really suitable men for the task, it must be the case that they are busy men. It is difficult, therefore, to carry on the proceedings without long adjournments. Each one of the commissioners has his own separate engagements. Frequently it is necessary to adjourn for several weeks in order to fix a date which suits the convenience of the commissioners, counsel for the city, counsel for owners and witnesses. The site of the present Hall of Records in the city of New York, was taken by condemnation. The three commissioners appointed to make the awards for the land taken were such men as anyone would be very glad to have as judges in his own case. They

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were, however, all busy men and it took them eighteen months to complete the proceeding for the award of damages for a site only about two hundred by two hundred feet. Their services cost the city eighteen thousand dollars. The probability is that they none of them regarded the work as profitable to themselves. They wasted a great deal of time inevitably. Any one of the three could probably have finished the work in a week had he sat upon it continuously six hours a day. Let us say that it would have taken him three weeks; for that service any one of them probably would have been satisfied with a fee of three thousand dollars. That would have saved the city five-sixths of the costs of the commissioners and would have saved nearly a year and a half in time. Some proceedings are pending in the city of New York to-day that have been in progress for five years or more. One proceeding is still unfinished which has been in progress for twelve years.

It must be apparent to anyone who thinks about it that it is impossible for judges to act with wisdom when they take several years to do the work. How can they possibly remember the bearing and appearance of the witnesses, the impression made upon them at the time by the witnesses as to their truthfulness and ability. All that any man could do after a year had elapsed would be to read the testimony, cold. The result could not be satisfactory to any man.

In the country, men who have ordinary knowledge of the conditions in the community may well serve in the condemnation of a few parcels of land and do it expeditiously and satisfactorily, but when the work must be done in cities special training is necessary to get the best results. You cannot have special training when you appoint a large number of commissioners at random.

What is wanted to secure justice to the owner and the city and expedition is the selection of suitable men who shall sit alone, and as far as possible do nothing else. We have tried to reach this result in the state of New York by so amending the constitution as to provide that the Supreme

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Court may make the awards for land taken for public use. We anticipate that if the amendment shall be enacted, one or more judges will be assigned to try condemnation cases and perhaps, also, appeals from the decision of the Tax Commissioners on assessment cases. It would be an ideal condition if certain judges devoted themselves exclusively to land cases, trying some cases where the interest of the city was in a high valuation, and other cases where the interest of the city is in a low valuation. The resolution to amend the constitution has been adopted once by the Legislature, and if again passed will be submitted to the people in November 1911.

EXCESS CONDEMNATION

In Europe it has been common to take more land than is required for the immediate public purpose for which land may be taken, and thereafter sell it or lease it under appropriate restrictions. This method has been adopted lately in London in the opening of the King's Way and several other streets. In one case the sale of the land acquired bordering the newly opened street has entirely paid for the land taken for the street and for its cost. It is expected that in the case of the King's Way the cost of the new avenue will be very slight, if anything, in excess of the money received for the land sold.

In the United States the taking of more land than immediately needed for the particular improvement has been seldom resorted to. An old decision of the New York Court of Appeals may, perhaps, render it impossible to pursue this policy in the state of New York until the constitution is amended. An amendment has been approved by the Legislature, and, if again approved, will be submitted to the people in November, which defines the taking of additional, adjoining, contiguous or neighboring property as a taking for a public use. The evil to be remedied is grave. When the streets are widened, or new streets cut through old parts

of the city, irregular and small-sized plots of land are left totally unsuitable for improvement. There are streets in New York to-day which have been widened for ten years, but still look as though they had been devastated by an earthquake. The reason is that when the map is inspected it is found that there are all sorts of small bits of land in separate ownerships, just as they were when the street was widened. If, when the street was widened, the city had acquired approximately one hundred feet more land than was taken for widening, the land could have been sold to advantage, and would have been improved immediately by the erection of suitable structures. The land would have been sold for more than the city had to pay for it. The additional money received would have helped to pay for the improvement. As it was the property fronting on the street was assessed for the expense of the improvement, and the owners of the property were heavily burdened, although unable to reap the benefit of the increased value given to the land by the widening.

When Delancey Street was widened a few years ago, lots less than ten feet wide in some cases were left fronting for one hundred feet on the widened street; adjacent to these lots were other lots fronting on the side streets and lying parallel to Delancey Street. Delancey Street was widened because it was needed as a great thoroughfare for the approach to the Williamsburgh Bridge. The land on Delancey Street, after it was widened, was worth very much more than the land on the side streets intersecting it. If the city had taken about one hundred feet more land than was required for the widening, the land could have been sold for a profit, the owners of the land so taken would have been saved excessive assessments, and the street would have been quickly improved with structures adapted to the new uses demanded by the new conditions.

There are to-day, in the city of New York, numerous cases where streets should be cut through old sections to increase the facilities for the north and south travel. Under existing

conditions the cost of doing this is prohibitive. If we had improved methods of making awards for damages and the power to take a reasonable amount of land in addition to that required for the new street, it would be possible to open these streets with small expense to the city and with advantage to everyone.

ASSESSMENTS FOR LOCAL IMPROVEMENTS

In most cities of the country the cost of new streets, including paving and sewering, is paid for by the assessment of the cost upon the property benefited. This should be the method in all cities, although power should also be given to the proper local authorities to determine what part of the cost should be borne by the city at large. There are cases where new streets are such a general benefit and the cost so greatly exceeds what would be spent for merely local improvements that it is but just that the city as a whole should bear a part of the expense. Under ordinary circumstances, however, a new street enhances the value of abutting land by a sum much in excess of the cost of the street. There is no injustice, therefore, in assessing the cost upon the property benefited. The general policy of assessment for benefit may well be extended to the payment for the construction of street railway or rapid transit lines. A provision of this kind is now incorporated in the Public Service Commission law of New York.

It is by no means necessary in all cases for the city to take more land than is required for a street. When the street is opened through property which is not improved, the simplest procedure is the best, and that is to assess the cost upon the property benefited. In order that a city plan may be developed the power to assess the cost upon the property, which is enhanced in value, is an absolute necessity.

TAXATION

The effect of taxation upon town planning can only be indirect and has no such direct relation as condemnation and

assessment. Taxation, however, may be so devised as to promote conditions which render a proper city plan easy of development. Where the burden of taxation is chiefly thrown upon improvements and personal property and the tax on land is light, speculation is induced. Land is withheld from use instead of being improved in a harmonious, orderly way; and small settlements grow up at intervals with waste stretches between them. Under these conditions all municipal services are rendered at a higher cost, — policing, lighting, sewering, paving; all cost more than would be the case in a community more compactly settled. This is not to say that there should be congestion. What too often we have is congestion of different centers of population with miles and miles of streets between with scarcely a house upon them.

If, on the other hand, taxes on the value of land furnish the chief source of revenue and are reasonably heavy it does not pay to keep valuable land out of use. Land, which is not immediately needed for use, is not valuable. The development of the city will proceed on orderly lines. When new buildings are required to house the population, or for purposes of production or trade, they will be erected where they will do the most good and that is where the land is most valuable.

It is not hard to see that the latter condition simplifies the whole question of city planning.

CONCLUSION

City planning is the art of so arranging streets and public places that privately owned land may be put to its best use. When land is put to its best use the maximum land value is one of the results. Land is the kind of property that is increased in value by improvements in the city plan. Land, therefore, ought to pay the bill and can well afford to pay it. The object of this paper is to show how to reduce the cost and how to make land pay for its own betterment. By taxation the price of land can be reduced,

the opening of unnecessary streets avoided and the cost of government reduced. By assessment of property benefited the cost of public improvements can be imposed on those who reap the financial reward that follows the improvement. By condemning more land than is necessary for widening of an old street, or the opening of a new street or park in a settled neighborhood, the expense may be reduced and plots subdivided in proper shape for immediate and suitable development to the great advantage of all.

The methods of making awards for land taken for public use may be so devised as to insure just awards in a short time. While this subject may be regarded as the financing of city planning, it is much more, it involves the best use

by all the people of their common heritage.

DISCUSSION

PROF. FRANK J. GOODNOW, Columbia University:

I shall speak first of the question, how the city acquires the land necessary for improvement, and second of how the city controls the improvements that are to be made.

Mr. Purdy has, in the improvements to which he has referred, had in mind mainly improvements which are made in the built-up portions of the city. One of the most important directions in which city planning must move, however, is in the newer portions of the cities. Now, it seems to me, in this country, that a fundamental defect of our methods of treating this question is, that we have in the past relied, and to a large degree I think we now do rely, almost entirely upon private initiative. This is due to the fact that it is a very common provision of law that new streets may not be opened where they are paid for by local assessment, except upon petition of the property owners affected by the improvement. And where the law makes a provision for such a petition, the courts are rather strict in regarding that petition as a necessary element in the jurisdiction of the authority which lavs out the street.

In New York also the city may lay out a plan for future development; but if the city does not acquire the necessary property on which the street is to go, as provided in that plan, the owner of the land is not bound. He can build a house within the lines of the projected street. The city, therefore, cannot develop symmetrically in such a way as to promote the public rather than private interests.

These limitations in favor of private property, which prevent the city from fixing a plan for its future development and controlling the action of private individuals, are constitutional provisions, which are hard things to overcome.

There is still another way in which our cities are limited by private interests and prevented from developing in accordance with the needs of the community. The entire means of transportation, both of passengers from one part of a city to another, and of goods and merchandise from outside into the city and from the city outside, is, again, in the control of private individuals, who naturally are looking at the matter not so much from the point of view of the development of that particular community as from the point of view of private profit.

European cities, however, have often developed a comprehensive plan of intramural transportation, and by working harmoniously with the state government, which exerts a similar control over the general railway situation, they have selected places for the delivery of goods and merchandise with the purpose of furthering not merely the interests of the transportation company but also the comprehensive development of the city. The distribution of the means of transportation, has not, in this country, been looked at from the point of view of the social interests of a particular community. At the present time in New York, for the first time in the history of the city, a comprehensive plan of intramural transportation is being considered.

Finally, on account of the lack, in most American cities, of any attempt to prevent the most intensive use of land through building upon the entire area, or of raising a

building to any height whatever, intensely concentrated centers of industry have developed. There must develop near by corresponding concentrated centers of population. or enormous numbers of people have to be carried to and from their work. Not long ago I met a man who is very prominent in the traction world who told me that the traction problem in most large American cities had gone beyond the capacity of either the engineer or the financier. The masses of people that have to be transported from the outside portions of the city into the interior of the city in the morning and taken out at night, had reached such a point that it was almost impossible to finance transportation enterprises with profit, unless there was an indecent crowding in the cars. His solution was to provide by law that different industries should close and open at different times, in order to permit of a more steady development. The first thing, therefore, that American cities must do is to recognize that as communities they are themselves responsible for this matter.

Mr. Purdy has called your attention to some of the methods by means of which the city finances city planning. One of the most important methods which has been adopted in this country has been, as he said, the levying of assessments to pay for local improvements, on the theory that the property that was assessed received benefit. In New York the law is that if the legislature or its delegates say that we are benefited, legally we are benefited. You can't go back of that determination. In other states, however, the question of benefit is one for the the courts to determine.

The attempt is made, in the assessment, to attain a rough approximation to the benefit derived from the improvement, but under our present local assessment system there is a great deal of property in the city, benefited by improvements that are undertaken, which never pay a cent of assessment. Take, for example, an improvement like the Brooklyn bridge — the first Brooklyn bridge — or an improvement like the subway in New York. These improvements, although paid

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for not out of assessments but out of general funds of the city, were of enormous benefit, not merely to the district which naturally would have been assessed for their construction if the principle of assessment had been applied, but benefited, also, that great section of downtown New York which under no theory of local assessment would have ever paid a cent for the improvement.

I think that generally you may say these outlying improvements, which tend to develop a city, and give places of residence a larger population, confer a benefit also upon the central business portions of the city. Mr. Sudekum, one of the members of the German Reichstag, spoke before the Committee on Congestion in New York with regard to the effect of population on values He said they had figured it out in Germany that in a city of two or three hundred thousand the arrival of every stranger or the birth of every baby added four hundred marks to the land valuation of the city. This relation of increase in land value and increase in population is characteristic of most modern cities. think Mr. Purdy will bear me out in saying that in New York the average annual increase in land values, as shown by its development, will be about five per cent. On that account, the attempt is being made in other countries to impose a tax upon that annual increment of value, on the theory that property all through the city is benefited. It was proposed before our commission on congestion in New York that there should be imposed upon annual increments, as shown by the assessment roll, a small tax, say five per cent, the proceeds of which should go to the construction of improvements like streets and subways and so on, which could be relied on to still further improve the value of the city. The principle of a tax on increments is adopted in many of the German cities; and, as you know, it is adopted in the famous English budget that has been the subject of debate in England for the last two or three vears.

Taxes have been levied in the past, and they are largely [128]

levied now, with the main idea of getting money, and incidentally there has also been connected with most taxation the idea of having taxes which are just; but up to the present time very little consideration has been given, in the case of municipal taxation, to the idea of the effect of taxation upon the social community.

A great many people say that it is a dangerous thing to use the power of taxation for the purpose of encouraging one thing and destroying something else, and that taxes should be levied only to raise money. My answer to that is you cannot help the social result. Taxation is bound to have a social effect, either a good effect or a bad effect. What we need, those of us who are interested in city planning, is to consider this subject of taxation not so much from the fiscal point of view, not so much from the point of view of theoretical justice, but from the point of view of social expediency. What effect is a method of taxation going to have upon the social problems which are bound up in city planning, one of the most important of which is congestion of population? I agree thoroughly with what Mr. Purdy has said, that it is not from this point of view proper to impose the same rates of taxation on personal property, improvements on land, and the unimproved value of the land.

Just as soon as a person begins to talk about imposing a tax on the unimproved value of the land, people begin to think he is an advocate of the views of Henry George, or is a single taxer. I am not a single taxer, but it does seem to me that this question should be studied from the social point of view, and that is a thing that we have not done. With my limited investigation, I believe that the proposition that Mr. Purdy has made is a proposition which should be adopted in the interest of a comprehensive municipal development in accordance with a rational city plan.

The general discussion was participated in by the following: Mayor John E. Reyburn, Philadelphia, Pa.; Mr. [129]

Thomas Adams, London, England; Mr. C. B. Thompson, Boston, Mass. The following points were brought out:

Experiments in taxation for the purpose of bringing about social results should not be abandoned, although there may be some danger in such experiments owing to the scanty knowledge concerning the incidence of taxation. A certain social result is bound to follow any taxation, and the best planned scheme to bring about a certain result may be entirely overthrown by the intervention of many things that cannot be foreseen. The best plan is to aim at a certain social result and make the system of taxation fit into that result so far as humanly possible.

How far costly improvements, such as large dock development plans benefiting particularly the industrial parts of the city, but very directly the whole city, should be borne by abutting property, brought out the fact that in the survey of Philadelphia's comprehensive plans of dock development it was found that many waterfront owners were willing to be assessed for the improvement, but that the constitutional difficulty of forcing those who refused to be parties to the scheme into line had stopped further consideration of that phase of the project. On this point the experience of Frankfurt was instanced, where before beginning dock development the city had secured all the land around the docks, thus realizing the whole of the increased valuation caused by the improvement.

THE WATER TERMINAL PROBLEM. INTRODUCTORY REMARKS

Mr. George E. Hooker Secretary of City Club. Chicago, Ill.

THERE is no more important factor in city organization than the circulatory system, just as there is no more important factor than that system in the organization of the healthy body. We were dealing to-day with the housing question; we did not go into the relation of a properly planned system of circulation to the housing question; but it is, of course, fundamental to that whole subject, because the transportation system determines what areas are available for city occupation, whether for residential purposes, economic purposes, educational purposes, recreative purposes, or any other purpose.

Considering ourselves as representative of the ordinary public, we are fairly intelligent about passenger transportation facilities. We are not fairly intelligent, I think, about freight transportation facilities. I wonder how many of us have any adequate conception of those concealed channels of movement which represent the foddering of New York, the supply of raw materials to its industries and the discharge and shipment of their finished product. We may ride up and down the city, or across it, with great frequency, following our beaten paths, and yet have no comprehensive notion of what the freight system of that or any other great city really is.

We have emphasized in this country transportation by

land more than transportation by water. The cities of the continent of Europe have examples of systematic waterway development which we may well imitate. Any second or third-rate city on a waterway there will have dock and harbor developments superior to what we can find, with one or two exceptions, in any of our cities.

Water transportation, or any other kind, for that matter. is a good deal like a fall from a height. The difficulty is not with the fall, but with its termination. The difficulties and troubles of transportation to-day, both by rail and by water, are in their termination. Picture, for a moment, the varied movements of freight which may be required at a water terminal: we may have a cargo that is to be transported from one boat to another boat, and this transfer may be effected in one of several ways: we may, for example, have a cargo of wheat to be transferred from the hold of a canal-boat to the hold of a steamer, for which purpose a floating elevator may thrust its long "leg" down into the canal-boat and, by the endless chain of buckets therein, lift the cargo over into the hold of the steamer. Or, instead of wheat to be transferred from a canal-boat to a liner, we may have package freight to be taken from the hold of one ship to that of another by using a lighter, the ship's tackle being employed for handling between ship and lighter each way. Or, we may have freight to be taken from railroad to boat, or from boat to railroad, in which case the boat may be anchored at the dock and the railroad train be brought alongside at the edge of the dock, so that the ship's tackle or the shore cranes, if there be such, can lift the freight either way between train and hold. That direct transfer, however, is not often secured. Or, we may take the package out of the hold, deposit it on the platform of a warehouse, truck it across by hand, and deposit it in a freight train on the other side of the warehouse. This is very often done. Or, we may take the package out of the hold and deposit it in a warehouse, there to be picked up by a dray for local delivery. These are only

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a few instances illustrating the complexity of this terminal

proposition.

I wish that everyone here might have had the opportunity, as I did last week, of seeing how each of the four or five important cities, which I passed on my road here, is struggling with this question of waterway terminal organization.

Every one of those cities is also endeavoring to work out plans for that interesting organization which we speak of as an industrial harbor - the primary purpose of which is to connect up factories and transport facilities so that raw materials may be shipped in and manufactured products shipped out quickly and cheaply, since terminal charges may make the difference between success and failure in the industrial development of different localities.

The Bush Terminal, so-called, in Brooklyn, is the best example in the country of an industrial harbor. It comprises six factors, viz:

- 1. The seven docks where ship cargoes are discharged.
- 2. The bulkhead, over which, by certain appliances, goods are transferred from the docks to
 - 3. The warehouses. Back of the warehouses is
- 4. The harbor railroad, which is connected not only with them and with the main railroads, but also with
- 5. The six great loft buildings for factories, and back of the factories lies
- 6. The residential area where those engaged in this organization presumably live.

Frankfurt-am-Main, a town of three or four hundred thousand, situated on the Main River, is now engaged in developing a great industrial organization of this sort, for which it has been authorized to spend eighteen million dollars; and it is working out all these different factors, including a model residential village. That is town planning carried to a very high degree of economic and social adventure.

A SURVEY OF AMERICAN DOCK DEVELOPMENT

MR. GEORGE C. SIKES

Secretary Chicago Bureau of Public Efficiency. Chicago, Ill.

BOTH public sentiment and expert opinion are divided as to the wisdom of public ownership and operation of such utilities as street railways, lighting plants and telephone systems. With waterworks systems, however, to take another example, the case is quite different.

It is generally conceded that plants for furnishing city water should be publicly owned and the tendency is in the direction of the municipalization of this utility. One reason for the public ownership of water plants is that the water supply bears an intimate relation to the health of a community. Another is that water plants call for large capital outlay, but require a very small operating force as compared with such utilities as street railways and lighting and telephone plants. The city can effect economies by borrowing money at lower rates of interest than can a private corporation, while the management of a water system does not present serious complexities or the patronage dangers inherent in the employment of a large operating force.

With respect to public ownership, docks properly belong in the same category as waterworks and not in the class of utilities like street railway, lighting and telephone plants that are the subject of controversy in this regard. Docks, to be sure, do not bear the relation to public health that the water system does, but docks do effect in a peculiarly vital manner the commercial life of a community. They

involve ultimately, if not immediately, large capital outlay, with an operating force smaller even than is required for the management of a water plant.

Experience, the trend of events, and the best official and expert opinion on the subject substantially all lead to the same conclusion — that the wisest ultimate policy with reference to dock facilities is public ownership.

TYPES OF OWNERSHIP

According to types of ownership, docks may be divided into five main classes, as follows:

- 1. Public ownership, including both state and city ownership.
 - 2. The harbor trust.
 - 3. Railroad ownership.
- 4. Ownership by private corporations or individuals not engaged in the transportation business, either rail or water, which permit shipping companies to use the facilities either under a leasing arrangement or on the payment of wharfage.
- 5. Ownership by the boat line which maintains and operates the dock facilities primarily for its own use.

The principal ports of Europe are either publicly owned or are managed by harbor trusts on lines that bear much more similarity to public than to private ownership. The most conspicuous exception to the prevailing rule in Europe has been London, but even the management of that port has recently been turned over to a harbor trust created by special act of Parliament, the price of the properties acquired being about two hundred million dollars.

The favorite type of port management in Great Britain is that of the harbor trust; in continental Europe direct public ownership is usual. Liverpool, Glasgow, and the Tyne ports, in addition to London, have the harbor trust. The port of Havre in France is subject to both national and municipal control. The divided authority, although all

public, is the cause of confusion and delay and interferes much with efficiency of management. The Belgian port of Antwerp is a municipal monopoly controlled directly by the city council. Rotterdam, Holland's great port, is also under municipal ownership. Hamburg offers a case of state ownership, but the state of Hamburg comprehends little beside the city, so that it is in practical effect municipal ownership.

NEW YORK'S MUNICIPAL DOCK SYSTEM

New York, New Orleans, and San Francisco, in this country, have publicly owned docks, as has also Montreal, the chief port of Canada.

New York's municipal dock system dates from 1870, when the law creating the department of docks of the city was passed by the State Legislature. By its early charters New York City had been granted the title to most of the land under water bordering upon Manhattan Island. Gradually, through transfer of rights to private parties, the city lost control of the greater part of its waterfront. The wharves in the main were privately owned. There was no orderly development. Facilities were poor and charges high. The management of the dock department, since its creation in 1870, has been criticised from time to time, in official reports and otherwise. Yet nowhere have I seen it seriously suggested that the policy of public ownership of docks in New York was a mistake. On the contrary, the system of public docks is commonly assigned as one reason for the remarkable commercial development of New York City. With political conditions as they have been in New York for the past forty years, perfection in the dock department was not to be looked for. On the whole, the management of the dock department seems to have been considerably better than might have been expected under the circumstances. On the physical side the development has been especially creditable. Immediately after the organization of

the department an orderly plan of development was formulated and in the main has been adhered to. Waterfront rights have been acquired, until now the city owns about three-fourths of the waterfront of Manhattan Island. The piers and the sheds, especially the newer ones, are both substantial and elegant in construction.

NEW ORLEANS UNDER A STATE COMMISSION

In New Orleans the larger part of the commercial waterfront of the port is publicly owned and is under the management of a board of commissioners appointed by the governor of the state. The ownership had long been in the city of New Orleans. Following some dissatisfaction with city management, a lease of a large portion of the waterfrontage was made to a private corporation in 1891 for a ten-year period. According to the terms of the lease the lessees were authorized to collect and retain for themselves all the charges allowed to be made for the use of the property. This arrangement was productive of still greater dissatisfaction, and had not been in operation long before an attempt was made to get away from it. The corporation receiving the lease spent little in improvements and took out very large profits. In 1896 a law was passed by the general assembly of Louisiana creating a board of commissioners of the port of New Orleans, the members of which are appointed by the governor. This commission was given power to regulate the commerce and traffic of the harbor, to administer the public wharves, to construct new wharves where necessary, and was authorized to develop the facilities of the port on progressive lines. The board was not able to get control of the public wharves until the ten-year lease made in 1891 had expired. Since the board actually got control in 1901, extensive improvements have been made. The management of the port appears to have been progressive and capable. Charges have been lowered, and there appears to be general satisfaction

with the present situation on the part of merchants and vesselmen. The city of New Orleans has brought about the construction of a switching railroad back of the wharves. The railroad is operated by a city commission which works in complete harmony with the port commissioners.

THE HARBOR OF SAN FRANCISCO

The harbor of San Francisco, like that of New Orleans, is managed by a state commission. The policy of state ownership was adopted in 1863. Practically all of the waterfront available for commercial uses is controlled by the commission. Although the harbor management has been subjected to some criticism at times, there has been no suggestion of abandoning public ownership. The present board of harbor commissioners is making extensive improvements. Some of the new piers now under construction are the best to be found in the country outside of New York City. The Harbor Commissioners within recent years have constructed and now operate a public belt railroad.

MONTREAL'S PORT A PUBLIC MONOPOLY

The management of the port of Montreal until recently has partaken largely of the character of the English harbor trust. Up to January 1, 1907, the governing body of the port consisted of commissioners appointed by the Dominion government, by the city of Montreal, and by various commercial bodies. By the law that became operative January 1, 1907, the board consists of three members, all appointed by the Dominion government, thus making the case one of federal ownership. There was criticism that the larger body, composed of members owing their appointment to divers sources, did not work harmoniously.

The Harbor Commissioners control the entire waterfront of the city and manage it on the basis of a public monopoly. Within the last few years very extensive improvements have

been made, and more are planned for the near future. The Harbor Commissioners own and operate a belt railroad. The facilities for the interchange of commodities between the railroad and the boat line are especially good in Montreal. The Harbor Commissioners own grain elevators which have been equipped with conveyor systems that make it possible for the boat to take on grain at the berth to which it goes to unload its cargo. They also own the portions of the waterfront devoted to industrial uses, as well as those on which commercial docks are maintained.

The port of Montreal is closed by ice nearly half of each year and is subject to other disadvantages. The improvements are not as expensive as in cities having a larger volume of traffic. But in adaptation to its needs, the dock system of Montreal is one of the best on the continent. It is so, largely because the development is on a basis of unity, the Harbor Commissioners being the sole owners of dock facilities in the port. The president of the board, Mr. George W. Stephens, and the chief engineer, Mr. Frederick W. Cowie, about two years ago made a report, based on a tour of personal inspection, on "British and Continental Ports with a View to the Development of the Port of Montreal and Canadian Transportation." In that report they give the following as one of the features of success of any port:

"(b) Ownership and Control of the Entire Harbor Area. — No complete development can take place without unity of purpose and concentration of authority. The value of complete ownership and the non-alienation of any territory or rights are inestimable. The existence of rights, franchises, or privileges in the hands of individuals may hamper business and endanger or discourage further extension."

EXAMPLES OF PRIVATE OWNERSHIP

Leaving the four ports on the North American continent in which the ownership of dock facilities is entirely, or

chiefly, public, we find a less creditable development. The port of Galveston presents the best example of private ownership coming within my observation. This is because the development in Galveston, although private, is upon the basis of unity. The Galveston Wharf Company was incorporated by special act of the Texas Legislature in 1854, the original name being the Galveston Wharf and Cotton Press Company. The company owned the land bordering on the water, but the city owned the street ends. considerable controversy between the company and the city a compromise arrangement was arrived at in 1869, under which the city gave the street ends to the company, in return for which the company turned over to the city one-third of its capital stock. By the arrangement the city names one-third of the directorate but is not allowed to vote its stock in the selection of the other directors. In order to insure control of the affairs of the company by the private stockholders, it is expressly stipulated that in all stockholders' meetings no measure shall be adopted or action taken except by the vote of three-fourths of all the stock of the company, exclusive of that held by the city. While, therefore, the city has one-third of the stock and thus receives one-third of the dividends declared, and while it is represented on the board of directors, the dominating control in shaping the policy of the company is private.

The Galveston Wharf Company is a wharf company pure and simple. It is not interested in transportation lines, either rail or water, except that it owns and operates the belt railroad which gives switch track connections with the piers. The facilities offered for the accommodation of shipping are creditable. The only criticism offered is that the charges are said by some to be high.

There appears to be no demand for public ownership and management of the wharf system in Galveston. On account of its misfortunes the city has been put to heavy expense in making public improvements, and is evidently satisfied to leave to the Galveston Wharf Company the task

of keeping the wharves in condition for the accommodation of shipping.

BOSTON'S BACKWARDNESS

Boston is instructive chiefly for the lesson in its failure to grasp the needs of its situation and to move aggressively for their satisfaction. It presents a mixture of public. private, and railroad ownership, with no powerful correlating influence on the part of the public authorities to make all conform to a harmonious plan. There have been several reports on the subject of dock development, all of which, with a single exception, favored public ownership, but thus far to little practical purpose. The dockage facilities on the main peninsula of Boston, which are used for the accommodation of vessels engaged in the coastwise and excursion business, are a veritable hodgepodge. The ownership is diverse. The development is scraggly and uneven. Much of the property is used for purposes that do not call for waterfront locations. The rentals charged are high, and new lines seeking dock facilities would have difficulty in finding accommodations in this part of the harbor, which is where they need to be. Only a few of the piers have switch tracks. The belt railroad located behind the piers is situated in a busy public street and can be utilized only at night. The prime need of Boston, it would appear, is to have this portion of its waterfront taken over and improved on a basis of unity by some single authority.

THE MOVE FOR MUNICIPAL OWNERSHIP IN PHILADELPHIA AND BALTIMORE

Philadelphia is a port which has suffered much from railroad domination. The Pennsylvania and the Philadelphia and Reading railroad companies own a large proportion of the waterfront. The city owns a few piers, while others are the property of various private owners.

There appears to be a strong public sentiment for the municipal ownership of more docks, as evidenced by the action of business organizations, led by the Maritime Exchange, in securing legislation enlarging the city's charter powers. In response to this movement the Legislature in 1907 enacted a law creating a department of wharves, docks, and ferries, and authorizing the city to acquire, construct, and own additional piers.

In Baltimore, as in Philadelphia, the principal dockage facilities have been owned by the railroads, together with diverse private ownership. The movement for municipal ownership of docks, which is now well under way in Baltimore, received its chief impetus from the great fire of 1904. In accordance with the recommendations of the Burnt District Commission, the Harbor Board was created as a subdepartment of the Department of Public Improvements. The Legislature conferred upon the city the power to acquire the title to waterfront property and construct piers thereon. Inasmuch as the docks in the business center had been destroyed by fire, it was a natural thing for the city to begin the work of pier construction in that area. New harbor lines were established, and a plan of comprehensive development outlined to be carried out as rapidly as the conditions would warrant. The small and inadequate piers were replaced by larger ones having slips of greater width and otherwise better fitted for the accommodation of shipping.

IN THE GREAT LAKES PORTS

In the ports of the Great Lakes railroad and private ownership are usual. In some of these ports exceptional facilities have been provided for handling the great bulk commodities of lake commerce. The facilities of Duluth, for example, for sending out iron ore and receiving coal, are remarkably good. Cleveland, likewise, has an especially good equipment for loading coal on to vessels. The accommodations for the passenger and package freight boats

are commonly owned either by railroad companies or by the boat lines themselves. There is very little public ownership of docks on the Great Lakes, nor is there ownership by companies engaged in the dock business, like the Galveston Wharf Company. Practically all the waterfront of Buffalo is owned by the various railroads, which also control the boat lines engaged in the package freight business at that port. This railroad control of dock facilities in Buffalo does much to enable the railroads to dominate the lake shipping business and to keep independent boat lines out of the field, to the detriment of the entire area naturally tributary to the Great Lakes. The principal dockage facilities in Milwaukee are owned by the Chicago, Milwaukee, and St. Paul Railroad. Chicago is in the crudest stage, in which each boat line is expected to look out for itself and find dockage accommodations where it can. The various railroad companies have piers where vessels can take on and unload freight for that particular railroad. But for its city and miscellaneous business each boat company must have accommodations of its own. A movement is now under way, strongly backed by the powerful Association of Commerce and other public-spirited organizations, looking to the early establishment of a municipal dock system on the lake front. The general assembly of Illinois is being urged to enact the necessary enabling legislation, in order that the work of dock construction may be undertaken by the municipal authorities.

THE BENEFITS OF PUBLIC OWNERSHIP

A study of the principal ports of the world discloses that those with the most progressive development are owned by public authorities, either state or municipal, or are managed by harbor trusts. The chief exception is Galveston, which furnishes an example of progressive development under private control. Railroad ownership of docks affords efficient service, as a rule, for railroad purposes, but rail-

road-owned docks do not satisfy the needs of a community for facilities for handling traffic not transferred to or from railroad carriers. Where one railroad owns the docks, other railroads are placed at a disadvantage, to the injury of the community at large. Moreover, while railroads encourage connecting ocean traffic, with which rail competition is impossible, they seek to suppress coastwise traffic and inland water transportation. Control of dock facilities is an important aid to the railroads in supressing competition by water-carriers. As a rule the most wide awake and public-spirited communities that have private ownership of docks are making moves to bring about public ownership.

Unity and development according to a comprehensive plan are the chief essentials to a well-ordered port. It is rare indeed that private ownership signifies harmonious development on a basis of unity. And where it does, there is the specter of management in the interest of private monopoly. Diverse private ownership means scraggly, uneven, and unrelated development. Boston, Seattle, and Portland afford good illustrations of this point. A mixture of public and private ownership may, of course, give the same result. But a usual purpose of public ownership or harbor trust management is to promote unity. Therefore, partial public ownership is likely to lead ultimately to complete public ownership.

Practically all the official and expert declarations on the subject are in favor of public or harbor trust management of docks. The only exception within my knowledge is the report made in 1907 by the Massachusetts Harbor and Land Commissioners.

The harbor trust idea has not been taken up in this country. Under the harbor trust plan the management of a port is intrusted to a group of men constituting a legal entity, chosen in various ways. Usually a part of the number is chosen by designated governmental authorities and the rest elected by the shipping interests of the port.

The trust authority borrows money on the revenues of the port and in other ways manages its affairs like a private corporation. But there are no profits either to stockholders or to members of the board who direct its affairs. After interest allowance and the payment of expenses, the surplus revenues are devoted to improvements or charges are lowered. The aim is merely to make the port management self-sustaining. It will be seen that the harbor trust plan is really more akin in nature to public ownership than to private ownership. While the harbor trust plan has worked remarkably well in Great Britain, there seems little likelihood of its receiving serious consideration in this country.

RELATION TO CITY PLANNING

The case for the public ownership of docks becomes still stronger when considered in relation to city planning. The waterfront constitutes one of the chief features of any city located on navigable water. Proper correlation of water-carriers with other forms of transportation is of the utmost importance. Both beauty and utility call for development in accordance with a plan that recognizes the need for unity. Experience teaches that development on the basis of unity usually is possible only where the policy of complete public ownership prevails. Private rights in the waterfront of a city are likely to prove a serious obstacle to the execution of comprehensive plans that recognize all the needs of a community.

PIER LEASING POLICY

There is another aspect of this matter that should not escape attention. Communities having public ownership of water terminal facilities should be careful not to surrender control by long term leases. In the best managed ports, both in America and Europe, it is not customary to make definite term leases for the use of docks or piers. In

Montreal, New Orleans, and San Francisco, the rights of vessel owners to dock space, as a rule, are subject to revocation at any time at the discretion of the port authorities. The result is that the port authorities are in complete control of the situation all the time. If public interests or new developments of any kind call for rearrangements, they can be effected with comparative ease. In New York it is customary to lease pier space for periods of ten, twenty, or thirty years. The law permits fifty-year leases. As a result there is speculation in pier leases. Rights acquired under one administration must continue until the expiration of the period of the lease, even if the public welfare or the interests of shippers would be better served by rearrangement.

The full benefits of public ownership of water terminal facilities are enjoyed only by those communities that adopt a pier leasing policy under which control is retained at all times by the port authorities — that is, in which leases or assignments of pier space are revocable at any time.

THE ORGANIZATION OF THE PORT OF NEW YORK

Hon. Calvin Tomkins

Dock Commissioner. New York City

REORGANIZATION of the great ports the world has followed the increase of steamer lengths and the need for articulating docks with railroads.

Germany and the Netherlands have become great terminals, since the railroad became the principal land factor in transportation, and as a consequence railroad connections with the docks are better there than at most English ports.

In America, except at Montreal, New Orleans, and San Francisco, where marginal railroads have been made public, the policy has been to permit each road to provide its own waterfront terminals. The consequence has been imperfect organization. The terminals are not properly inter-connected and there has resulted inadequate use of the back lands, which, under proper organization, should be connected by railroad sidings with warehouse and waterfront terminals.

The importance of terminal organization for the cheap handling of commodities for manufacture as well as for commercial purposes cannot be exaggerated. The industrial advantages of cheap terminal handling of raw materials and finished products in and out are of greater importance to a city than are the best commercial facilities for the interchange of freight in transit.

The natural opportunities about New York harbor have been so great that until recently the necessity for organiza-

tion has not been manifest. Smaller ports, with less room, have been obliged from the outset to consider the best uses to which their waterfront could be put. Even now, while the need for co-ordinating terminals about the harbor is beginning to be realized, there has arisen no great inconvenience, except on the west side of Manhattan. Disorder and congestion is pronounced in this locality, and the complications involved in remedying it are such as to create an exceedingly difficult problem.

A number of circumstances conspire to force upon public attention the necessity for a comprehensive port policy:

- 1. The railroad congestion on the west side of Manhattan.
- 2. The need for longer piers and the conditions imposed upon the city by the federal authorities, with a view to safeguarding the encroachments upon the harbor waters.
- 3. The necessity for providing terminals for the one hundred million dollar barge canal across the state of New York, which is now rapidly approaching completion.
- 4. The need for providing better terminals for local river, harbor, and sound commerce.
- 5. The necessity of terminating the New York Central's surface track nuisance in Manhattan.

These difficulties which have suddenly confronted the city are in my judgment most fortunate, since they focus attention on what too long has been, and would otherwise be, a neglected duty — the development of a port policy.

The object of such a policy should be to plan each part of the port for its best use, including both the districts in New York and New Jersey, and to connect all parts (1) by car floats; and in the more distant future (2), by freight tunnels. Generally speaking, the uses of a port can be described as commercial and industrial. The former involves the handling of commodities in transit, and the latter involves terminals where goods are to be taken in for consumption, or raw materials taken in for manufacture, to be subsequently shipped out.

One of the serious difficulties encountered is the fact that manufacture is to such an extent concentrated at Manhattan. This was a natural development in the central borough, before the railroad became as great a factor in transportation as at present. The expense of drayage in handling fuel, raw materials, and finished products to and from Manhattan factories is imposing an increasing burden upon factories fabricating bulky or heavy commodities. The high cost of land at Manhattan increases the expense of manufacture, and the cost of living, particularly of rent, tends to make wages higher and labor less efficient.

One of the main points in the city's policy should be to seek to provide terminals at outlying parts of the port so well equipped with rail and water shipping facilities as to induce factory location outside of Manhattan and the migration of the accompanying factory population to points where cheaper lands make possible better living conditions.

The enterprise of the Bush Terminal Company at South Brooklyn affords an illustration of what the city's policy should be outside of Manhattan. This terminal is the only properly organized part of the port. Back of the docks are located the warehouse buildings; and back of the warehouses, the factories, all connected with each other and with a general marginal freight railroad leading to car float bridges, from whence cars are transferred to the New Jersey, New England and New York Central roads. To the north of the Bush Terminal are located two and one-half miles of dock property belonging to the New York Dock Company, which is not so well organized, but which recently, under enterprising management, is beginning to plan for a similar development. Between these two terminals lies the Erie Basin district, a great expanse of comparatively undeveloped waterfront lands, without railroad connections. This district has retrograded in recent years and offers an unusual opportunity for reorganization on a large scale.

I have recommended in a recent report the acquisition by the city of part or all of these lands, with a view of imposing

upon them a plan for railroad, steamship, and industrial use, including a great railroad classification yard, to which freight can be forwarded both from the Bush Terminal on the one side and the New York Dock Terminal on the other; and at which the state can establish a barge canal terminal, and the federal government also acquire lands for its marine needs in the harbor. The increased value of these lands, if properly organized, would go far toward paying for the improvement.

The opportunity for creating a similar terminal exists at Staten Island, between St. George and Fort Wadsworth; also along the shores of the Bronx, between Highbridge and Port Morris. Other opportunities are found at Jamaica Bay, Flushing Bay, and Press Kill, Staten Island, all of which permit of treatment on a grand scale for industrial as well as commercial use. In every instance, the main features of development are identical, namely, provision for a marginal road paralleling the waterfront, with warehouses at the docks and factory sidings leading to the back lands. The waterfront improvement, including the docks, marginal way, marginal railroad and warehouses to be retained under a pronounced degree of municipal control. made possible through the public ownership of the frontal The recommendations of the department are that the city should acquire a strip of land adjacent to the waterfront sufficient for the sites for the warehouses and the marginal railroad, with the expectation of leasing these lands for warehousing and railroad extension to outside concerns, under such restrictions as the city shall impose.

Competition between ports here, as elsewhere, is forcing the gradual municipalization of the dock front. The terminal facilities at the waterfront must be operated as cheaply as possible, if the most favorable conditions for competition with other ports are to be attained. Since public ownership and control does not involve profit, but only looks for interest and amortization, it is clear that private terminal corporations cannot compete with the city; and this fact

has been realized by such concerns as the Bush Terminal Company, the New York Dock Company, and others which anticipate that the city will ultimately acquire their properties. The needs of the back lands for shipping outlets at the waterfront also tend to compel the gradual realization of the municipalization policy. If this process of acquisition shall be forced instead of gradually proceeding as needs make it desirable, the city will encounter the competition of its own improvements, thus cutting down the revenue derived from them, and as a consequence the process of additional acquisitions and improvements will slow down until opportunities shall be afforded for demand to overtake the supply of public facilities; an automatic balance will thus be maintained between expenditures and improvements.

It is highly desirable that the dock fund should be segregated. If this shall be done, it will be constantly subject to the automatic process governing expansion and retrenchment. At present, the revenues of the dock department are not separated from other city revenues as they should be, and it is not easy to establish the proper relation between income and expenditure which is desirable. We cannot expect that extensive improvements, such as those contemplated at South Brooklyn and elsewhere, will be paid for out of the receipt of taxes. They must be made to pay for themselves, - by capitalizing earnings which are the result of improvements. The dock fund should, as far as possible, be retained intact, using it only for such improvements as in turn may reasonably be expected to become selfsustaining, thus again returning the principal for progressive use.

As a consequence of acquisitions and improvements already made, the department will shortly have available, under a recent constitutional amendment, a credit fund for dock purposes approximately aggregating sixty or seventy millions of dollars. This will become available as soon as the Appellate Division of the Supreme Court shall have passed upon accounts which have been made up and which the comp-

troller of the city is about to submit. Excess condemnation and beneficial assessment should also be resorted to to stimulate the development of terminal improvements.

The necessity for removing the New York Central's tracks from the street surfaces in Manhattan, where they constitute a dangerous nuisance, has precipitated a discussion of the entire port problem. The railroad problem in Manhattan is so involved with the location of steamships and provision for marine commerce generally, at that point, that the two must be considered coincidently.

It is of the greatest importance that the city shall provide better opportunities for its marine commerce in lower Manhattan, and this can only be accomplished by gradually curtailing railroad car float privileges in that locality. The business conducted by the largest class of steamers between European ports and New York has grown to phenomenal proportions in recent years. Its concentration at the port of New York is one of the most valuable commercial assets of the port. These steamers desire terminals at the central borough of Manhattan for the same reason which prompted the Pennsylvania Railroad Company to spend over one hundred millions of dollars in order to establish its terminal there, with tunnel connections to New Jersey and Long Island. Passengers desire to land at Manhattan because the terminals of transportation lines center there; it is more convenient to handle baggage, and it is most convenient to hotels, shops, amusements, and wholesale and retail business. To force them to land at some other part of the port would mean a less convenient port organization and a tendency for travel to seek other seaport cities. Nearly all of the package freight carried by this class of steamers is destined for Manhattan, and it would necessitate expensive lighterage or drayage transfer if it were not landed there. The only part of Manhattan where long docks can be obtained with promptness and economy is along the west side, below Twenty-third Street.

The New Jersey roads desire to continue the present [152]

method of loading and unloading their car floats at the waterfront, and the steady growth of traffic compels them to demand more room for this purpose, at the same time that provision should be made for transferring long steamers here from the Chelsea district. This conflict between the New Jersey railroads and the steamers for the use of the waterfront of lower Manhattan, together with the immediate necessity of terminating the surface track nuisance of the New York Central Railroad Company along the west side of Manhattan, has resulted in two reports from a committee appointed by the Board of Estimate and Apportionment. The majority report may be summarized under two heads:

"Immediate Solution."

- (a) Recommends the discontinuance of the use of the New York Central tracks on Eleventh Avenue south of Sixtieth Street, the New York Central to float its freight from the Sixtieth Street yard down to a car transfer bridge to be installed at the waterfront near West Washington Market; that short stretches of existing tracks in that vicinity remain and be operated temporarily to supply the storage and manufacturing enterprises now served by the surface tracks of the New York Central in that vicinity; further, that another car transfer bridge for the New York Central be located at or near the foot of Canal Street and surface tracks connected therewith to serve the New York Central Terminal at St. John's Park.
- "Final Solution."
- (b) The above arrangements to be considered only temporary, leading to the final removal of all north and south railroad surface tracks below Sixtieth Street on the west side by the installation of a separate terminal for each pier connection; these terminals to include car transfer bridges at the outer end of the pier, switchbacks to elevate the cars to the second floor of the pier and an elevated crossing over West Street for delivering the cars into a freight terminal building on the east side of West Street opposite the landing

pier. The majority report estimates that nine such isolated terminals below Twenty-third Street would be sufficient to handle the present railroad traffic of all the railroads coming into New York in this section. As to the use of these separate terminals, the majority report rather leaves it a matter of future policy as to whether each railroad shall have the exclusive use of certain terminals or whether each of the nine terminals shall be open to car floats from all roads reaching lower Manhattan by water. This solution further provides that the New York Central may construct a freight subway between Sixtieth and Thirtieth Streets.

The minority report, presented by the Commissioner of Docks, may be summarized as follows:

"Immediate Results."

- (a) A four-track elevated railroad from Sixtieth Street to Fulton Street, or further south if necessary, along the marginal way, which marginal way adjoins the bulkhead line and passes the foot of each pier; this elevated railroad will have an immediate tenant as set forth in (b).
- (b) This elevated road by ramps to have direct connection with the New York Central tracks at Sixtieth Street, thus forming an all railroad connection for the New York Central into the downtown commercial districts. These facilities automatically remove the surface tracks of the New York Central south of Sixtieth Street within two years after work is started.

The plan provides for the immediate temporary connection with the marginal elevated railway of the present surface freight yards of the New Jersey railroads between Twenty-third and Forty-second Streets.

"Ultimate Results."

(c) The Jersey roads to have access to this elevated railroad by means of car transfer bridges to be installed between Thirtieth Street and Fortieth Street, North River, these car transfer bridges to be in nine sets of four each, each set having an independent and separate connection with the elevated by means of ramps; these car bridges to be installed

only as rapidly as required by the Jersey railroads; the piers between each set of car bridges to be used for car

storage;

This elevated road to offer direct connection by ramps with every railroad wishing to use it — whether by the car bridges provided by the city, its own bridges from its leased docks, such terminal stations as it may build along the city's way, or such tracks as it may wish to connect with those of the city;

(d) The cars on this marginal elevated railway to be delivered into the second floor of freight terminals on the east side of West Street, to be located at such points as the various railroads may deem their interests require, the acquisition of property and the erection of suitable freight terminals. In addition to these freight terminals, warehouses and independent terminals may be erected also on the east side of West Street and connected by spurs with the through elevated line;

- (e) The whole system ultimately to form a comprehensive terminal development of the lands east of West Street, south of Twenty-third Street, each railroad to have freight terminals established at sufficient intervals so as to serve its various shippers with the shortest truckage haul, these terminals to be located as justified by the demands of the shipping interest in lower Manhattan. Ultimately there is contemplated the erection of a central freight terminal between Twenty-fifth and Thirtieth Streets and between the marginal way and Tenth Avenue, and that the surface of the marginal way between Thirtieth and Fortieth Streets shall be closed to trucks, etc., but an overhead viaduct to be provided for through north and south vehicular traffic;
- (f) The elevated railroad to be erected by the city and to be operated either by the municipality or by a company formed under municipal control. The interest on the money invested in the elevated railways and car bridges and the necessary amortization funds to be derived from a usage

charge imposed upon the railroads operating on the elevated lines.

In order to carry out the provisions of either report, or any other plan adopted by the city authorities, enabling legislation is necessary. To this end, the Dock Department, through the Corporation Counsel, has submitted three bills to the Legislature.

Senate Bill Introductory No. 894 enlarges the powers of the city to develop, control, and administer its waterfront facilities. This bill provides that the Board of Estimate and Apportionment may authorize the Dock Commissioner to adopt and execute plans and acquire property for terminal facilities and equipment, with powers of contract, condemnation, and purchase therefor. This bill is applicable and indispensable to the proper execution of either the majority or minority report.

Senate Bill Introductory No. 896 amends the Transportation Corporation laws by adding thereto an additional article providing for the incorporation of freight terminal companies. This is for the purpose of encouraging private enterprise to co-operate with the city of New York in providing terminals throughout the harbor. This bill will permit the incorporation of freight terminal companies such as the Bush Terminal Company, the New York Dock Company, and others, with better equipment than now, to undertake the installation and operation of terminal facilities. clothes this new class of corporations with somewhat the powers and responsibilities of a common carrier, these to encourage private enterprise to the utmost toward meeting the situation, while leaving the city functions as far as may be one of control and co-ordination only. This bill also is applicable and indispensable to the proper execution of either the majority or minority report.

Senate Bill Introductory No. 1044 provides a basis for a business negotiation between the Board of Estimate and Apportionment and the New York Central Railroad Company for the readjustment and improvement of that com-

pany's terminals and approaches thereto along the west side of Manhattan. This bill narrowly limits the powers of the Board in dealing with the railroad. Such powers of readjustment must be given the city if the freight handling facilities of the New York Central are to be made most available to our merchants and shippers.

The plans presented by the minority report before the Board of Estimate and Apportionment are but one series of those now being advocated by the Department of Docks and Ferries for bringing our port facilities up to date. The two bills first mentioned above are applicable and indispensable to all these plans, or in fact, to any comprehensive improvements and developments of the port of New York. The Department of Docks and Ferries realizes that to carry forward its policies, it must have the intelligent and persistent co-operation of the public which it represents.

The following letter under date of May 6, 1911, addressed by the Dock Commissioner to the New York representative of the Baltimore & Ohio Railroad Company, Central Railroad Company of New Jersey, Delaware, Lackawanna & Western Railroad Company, Erie Railroad Company, Lehigh Valley Railroad Company, and the Pennsylvania Railroad Company, I believe states the position of the dock department in relation to the position taken by these companies:

"Gentlemen, — I write to acknowledge the receipt of your letter of April 29th and thank you for the prompt and explicit statement of the position of your several railroads as defined therein. With this precise knowledge of your views, it is now possible to discuss intelligently the complicated problem of Manhattan terminals.

"I understand that you object to both the majority plan and that of the dock department as being less efficient and more expensive than the present plan of handling freight through the piers, which you say is the most economical that can be devised, provided electrical devices, telpherage, double-decking and other corresponding improvements shall

be availed of. I note that you are opposed to the relinquishment of downtown piers to trans-Atlantic steamship companies, and favor the dockage of other water-carrying lines elsewhere in the harbor.

"I shall endeavor to meet you with equal frankness in stating what I believe should be the policy of the city. I realize the primary importance of Manhattan's railroad service as related to food and other supplies, and to the shipment of merchandise and manufactured articles. I admit, so far as the New Jersey railroads are concerned, that until recently the simplest, cheapest, and most expeditious service obtainable was realized by loading and unloading car floats at the waterfront.

"But the increasing congestion at piers and bulkhead sheds has in recent years added greatly to your costs; and if we include team delays, the aggregate cost to the railroads and the merchants of the city is indeed serious. According to information which I receive, the amount of traffic handled is increasing approximately five per cent per year, so that the situation is progressively becoming worse.

"Local commerce, such as the receipt and delivery of coal, building materials, lumber, etc., has necessarily been almost excluded from this part of the waterfront, necessitating expensive hauls. The State is now seeking terminals for the Erie Canal in this district.

"I am continually being importuned with applications of steamship companies for location here, which applications cannot be granted. Recently the federal government grudgingly granted a two-year extension of two of the Chelsea piers to accommodate long steamers, the understanding being that during the interim the city would provide and begin to carry out a plan for port development which shall permit of the docking of this class of ships away from this narrow Chelsea district. It is my hope that if the city shall make a beginning, the federal government may extend the time so as not to block the city's plans — but not otherwise. As I have stated in prior reports, the only part

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of Manhattan in which we can secure materially longer piers for larger ships, without great expense and inconvenience, is between the Battery and Twenty-third Street. See my reports in justification of this statement.

"As to your suggestion for the removal of the water lines other than the trans-Atlantic companies: The southern coastwise steamers are in effect the ferries between railroad terminals at southern cities and New York. The service they perform, largely in competition with yourselves, is analogous to that of your own car floats, and it is important for the commerce of the city that their competitive influence upon freight rates and the differential to and from New York should not be minimized. I am aware that a large part of the coarse freights which they bring here, notably lumber, cotton, naval stores, and oil might be handled to advantage elsewhere in the harbor, and it will be my endeavor to induce location for this kind of traffic outside of Manhattan; but the package freight business of the coasters in competition with that of the roads having land terminals here, should be encouraged. This problem alone, as you will perceive, is complicated and difficult. In short, there is only room for a fraction of the rail and marine commerce seeking terminals at the waterside of West Street. The easterly side of this most congested city street is comparatively deserted; and since it is at least possible, as described in my reports, to load and unload cars there, I have sought to bring them there and so avail of both sides of the street.

"I have not proposed, however, that this should be accomplished in any sudden or arbitrary way. My suggestion has been that south from Fifty-ninth Street the city itself should construct, own, and control an elevated marginal freight railroad available, not only for the New York Central, but for all roads, should they wish to use it by making connections, as noted in my reports.

"New York has only one direct rail connection with the continent — via the New York Central. The surface tracks of this company in lower Manhattan have become a nuisance,

and traffic over them must soon cease. This traffic can be conducted to lower Manhattan either over a city elevated freight way or by the broken service of car float ferries such as your own. Relegation to ferries would sever New York from her only competitive all-land connection, thus leaving more largely to yourselves the determination of basic freight rates for the port. Car ferry service will also add to the congestion of the overcrowded waterfront in lower Manhattan. Which is the better way out of the dilemma? To disable the Central, or, so far as possible, provide like facilities for it and yourself as well?

"I assume that as practical railroad men you appreciate that public interest will be best served by maintaining every competitive factor; and this I believe the city will do. The city's elevated freight road will always be at your service, should you wish to use it, as I am confident you will find it profitable to do. The city asks no commitments from you. Your future action as to such use will doubtless be determined by your interests. If any better method can be devised, with due regard to the general interests of the port as well as your own, that method will doubtless be adopted.

"Considering the fast increasing difficulties, I cannot believe that present methods will long be tolerated. If the city shall inaugurate this policy, I am convinced that a rational, automatic, and progressive solution will gradually and inevitably result.

"Appreciating your many courtesies and the interest you have taken, I close by submitting to you an abstract of the reports of the various commercial bodies of the city, so far received, in general support of the dock department plan."

The acute business rivalries involved in this re-organization plan and the sharp differences of opinion which have arisen, make its solution a peculiarly difficult one. It appears to me, however, that it will be found impracticable to discontinue a continuous rail service by the New York Central to lower Manhattan without great detriment to the

interests of the port. I believe such a service should be conducted from the Sixtieth Street terminal of the New York Central Railroad over a municipal elevated freight way available for use by the New Jersey roads as well as by the New York road. If this plan shall be carried out, in my judgment, the improved facilities of the New York Central at its future terminals on the east side of West Street will necessitate the use of like facilities by the New Jersey roads, and that the question will thus automatically settle itself. The congestion is now so great at the dock front that the delays which shippers and railroads alike are subjected to will not much longer be tolerated. The use of the waterfront in this old-fashioned manner has been outgrown, and the marginal elevated freight railroad affords the only opportunity for meeting the needs of the New York road, the New Jersey roads, and the marine commerce of the city seeking terminals at Manhattan.

PHILADELPHIA HARBOR IMPROVEMENTS

HON. JOSEPH F. HASSKARL

Director, Department Wharves, Docks and Ferries. Philadelphia, Pa.

PHILADELPHIA now ranks second among the maritime ports of this country. The commerce for the year 1910 was approximately twenty-seven million tons (27,000,000), with a value of one billion four hundred and fifty million dollars (\$1,450,000,000). The revenue receipts amounted to twenty-one million eight hundred and eighty-eight thousand two hundred and eighty-five dollars and forty-four cents (\$21,888,285.44).

With proper river and harbor improvements, Philadelphia should—owing to its geographical position—become the leading freight shipping and distributing point on the Atlantic Coast, as it is nearer the middle west than either Boston or New York, and more favorably situated for handling freight than any of our competing ports—viz.: Boston, New York, and Baltimore—as to distance from the sea, distance from Liverpool, and distance from Chicago, as will be seen by the following table:

Table Showing Distances from the sea, Liverpool, and Chicago to Boston, New York, Philadelphia and Baltimore.

Distance from the Sea to	Nautical	Statute
Boston		9 Miles 17 "

Nautical	Statute
Philadelphia 88 Miles	101 Miles
Baltimore 149 "	171 "
Distance from Liverpool to	
Boston 2,897 "	3,336 "
New York 3,036 "	3,496 "
Philadelphia 3,172 "	3,652 "
Baltimore	3,832 "
Distance from Chicago to	
Boston via most direct railroad routes,	1,141 "
New York	908 "
Philadelphia " " " " "	818 "
Baltimore	797 "

Philadelphia has a navigable water frontage of about thirty-five miles on the Delaware and Schuylkill. At the present time there are one hundred and fifty-three piers available for foreign and coastwise commerce, which furnish ample terminal facilities for our present trade; and looking to the future, the city has now under construction one double deck pier at Vine Street - one hundred and sixty-six feet wide by five hundred and seventy-one feet long - costing six hundred and seventy-five thousand dollars (\$675,000); and has authorized the construction of another double deck pier at Dock Street - one hundred and twenty feet wide by five hundred and eighty-two feet long — costing five hundred thousand dollars (\$500,000), plans and specifications for which have been completed. In addition to the above mentioned piers, several new ones have been authorized, some of which are now under construction by corporations and railroads.

The conditions at Philadelphia are somewhat different from those of other leading ports along the Atlantic, inasmuch as the federal government dredges the main ship channel in the Delaware River, where it is deemed best to locate the same. In many cases this is at a considerable distance from the pier-head line, or from the entrance to the docks. These conditions have made it

necessary for the city and State to dredge between the ship channel and the entrance to the docks, which in many cases require the removal of large quantities of material.

In order to do this work expeditiously and economically, the city has recently built and installed a municipal dredging plant,—consisting of an eighteen-inch hydraulic dredge; a combination dredge, with five-yard scoop and clam-shell buckets; five large dump scows; one coal scow and one derrick scow; fifteen pontoons and two tug boats. The reason for building this municipal dredging plant is that the work can be done more economically, and at such times and in such localities as desired, without the delay necessary to advertise the same.

Among the serious problems to be met with in our port development will be the reconstruction of many piers, in order to accommodate the larger and deeper draught vessels that will ply between Philadelphia and other ports within the next few years. Most of the larger piers in Philadelphia were built between 1894 and 1898, or about the time the twenty-six-foot channel in the Delaware River was completed, and the foundations in most cases are only sufficient to permit dredging the docks from twenty-six feet to thirty feet M.L.W.; whereas, when the thirty-five-foot channel has been completed vessels drawing from thirty-two to thirty-five feet will come to this city and make it necessary to have the docks dredged to a depth of from thirty-five to thirty-seven feet M.L.W.

Another question is what to do with many of the very old piers from fifty to eighty feet in width and from one hundred and fifty to three hundred and fifty feet in length — with dock spaces between these piers ranging from seventy to one hundred and twenty feet. An act of Legislature, dated June 14, 1897, makes it necessary that dock spaces between piers shall not be less than one hundred and fifty feet, unless public convenience demands a variance in any particular case.

In some cases, when owners of such small piers and narrow docks have applied for permission to extend them, their request has been denied, and it was suggested to them that they combine with their neighbors, so as to build one large pier with ample dock space, instead of attempting to build two small piers with insufficient dock space. In this connection it is well to mention the fact that the use of barges and lighters in loading and discharging vessels is increasing rapidly, so that ample width of dock space is as important as pier or wharf space.

These many alterations and improvements will necessitate the expenditure of large sums of money, in order to keep pace with the increased demands of commerce and draught of vessels. This fact brings up rather forcibly the question as to the advisability of having the leading maritime nations of the world come to an agreement as to the depth of water required at the principal ports in the different countries. As it is now, as soon as some steamship line builds one or more vessels with deeper draught than the older vessels have, it necessitates additional depth of channel, and additional harbor improvements.

If the maritime nations of the world were to agree on the depth of water of the different ports, it would make all future improvements permanent, and such conditions as now confront us would not arise again, where the rebuilding of many wharves will be necessary, in order to obtain deeper docks, so as to accommodate the larger and deeper draught vessels that will soon use them. If such an arrangement had been entered into years ago, many millions of dollars would have been saved to the different nations and municipalities, for it has frequently occurred that, when a greater depth of channel leading to a port was authorized, the deeper channel did not always follow the line of the older channel; thus, much of the work done in the way of previous channel improvements became useless.

Another subject requiring careful consideration is the widening of Delaware Avenue south of South Street and

north of Callowhill Street. In some places the width of the avenue will be increased from fifty to one hundred and fifty feet. As the widening of the avenue has always been done toward the river, and as all the piers project from the eastern or river side of Delaware Avenue, the widening of that thoroughfare has shortened many of the older piers a distance equal to the increased width of Delaware Avenue in that locality.

During the time the widening of Delaware Avenue between Callowhill and South Streets was in progress, the shortening of the piers resulted in large claims for damages. In order to lessen these claims, we have now decided to permit the owners of the piers to extend them a distance equal to that which has been taken off the shore end of the piers by the widening of Delaware Avenue, and thus the city will be compelled to pay only for the cost of the additions to the old piers.

According to the comprehensive plan recently prepared for Philadelphia's harbor improvements, it is the intention to have Delaware Avenue — or a commercial avenue of ample width, with belt line connecting with each of the railways entering the city — run along the entire Delaware River front, and have the piers connect directly with the same. The plans provide for a similar commercial avenue along the eastern side of the Schuylkill River as far north as Washington Avenue — and farther if necessary. At present the only avenue answering such a purpose extends along the Delaware River front from Norris Street to Washington Avenue — a distance of about three (3) miles. The fact that it does not extend along the entire Delaware River front is a very serious disadvantage to shippers.

Another reason for the extension and widening of Delaware Avenue is the fact that the Belt Line Railway occupies a part of that avenue. At present the belt line only runs from Frankford Creek to Allegheny Avenue, a distance of about three miles, and from Vine to South Street, a distance of one mile, whereas the charter provides for the

belt line to run from Princeton (old Monroe) Street, Tacony, on the Delaware River, to Yankee Point on the Schuylkill River, a distance of about sixteen miles. Many complaints have been made concerning the manner in which the belt line is now operated, as it does not give to shippers all the advantages that were contemplated when the line was projected.

There are at present three trunk railways in the city of Philadelphia, and they have nine hundred and twenty-four miles of railroad tracks and one hundred and two freight distributing stations within the city limits, as follows:

Pennsylvania Railroad Co., 49 freight stations, 496 miles of railroad tracks.

Philadelphia & Reading Railway Co., 41 freight stations, 353 miles of railroad tracks.

Baltimore & Ohio Railroad Co., 12 freight stations, 75 miles of railroad tracks.

These railroad tracks and freight stations are so well distributed that all the manufacturing centers and shipping establishments are amply provided for, and only short hauls are necessary to and from the nearest freight stations; additional tracks are being laid and new freight stations opened by the three railroads as rapidly as business requires, and many of the larger manufacturing and shipping establishments have sidings, giving them direct railroad connections.

The one hundred and fifty-three piers now in use in the city of Philadelphia are owned as follows:

By	the	City of Philadelphia 14 Piers
66	66	Philadelphia & Reading Railway Co 37 "
66	66	Pennsylvania Railroad Co 21 "
		Baltimore & Ohio Railroad Co 6 "
		Private Owners

From this it will be seen that the railroads own forty-four per cent of the piers in use. While the service rendered to shippers by the different railroads has been fairly good,

it has been far from satisfactory, or what could be rendered if better terminal facilities were established, and the interchanging of cars from one road to another were effected through the use of the belt line, thus making shipments more direct and economical.

According to the most recent plans for Philadelphia's harbor improvements, it is the intention to establish large steamship terminals, with the necessary railroad, wharf, and docking facilities, in the lower part of the city, between Mifflin Street and the back channel at League Island. The plans for the improvements in that locality provide for piers from two hundred to four hundred feet in width, and from eight hundred to two thousand feet in length, with docks ranging from two hundred and fifty to three hundred feet in width. It is the intention to have the heavier trans-Atlantic freight steamers and the larger vessels use the new terminals, so as to leave the central portion of the city's waterfront for the lighter trans-Atlantic and coastwise commerce. This arrangement will lessen the distance for hauling merchandise by drays, etc., to and from the warehouses, large department stores, and centrally located manufacturing and shipping establishments.

An extensive plan of wharves and docks, with suitable railroad terminals, has also been prepared for both sides of the Schuylkill River near the mouth, and in the vicinity of Yankee and Gibson Points. In all the plans for these new improvements, large railroad and freight yards are provided. These vast improvements are predicated upon the extension of Delaware and Commercial Avenues along the shores of the Delaware and Schuylkill Rivers to the points where the new terminals will be located, and include the extensions of the Belt Line Railway.

It is now the policy of the city of Philadelphia to own enough wharves and river front property to control the harbor facilities. With that object in view we recently commenced the construction of Vine Street pier and purchased the necessary land for Dock Street pier, which has

been authorized — also purchased about four hundred acres of land having twenty-five hundred feet of water frontage on the Schuylkill River. Among the improvements to be made by the city in the near future are the building of a double-deck pier in the vicinity of Catharine Street and another one between Arch and Race Streets; also a double-deck pier for commercial and recreation purposes at Penn Treaty Park (Columbia Avenue); another at Allegheny Avenue for commercial and recreation purposes; and a similar pier at Bridesburg.

When all of these improvements have been completed, Philadelphia will have unsurpassed river and harbor and terminal facilities, and, with the many miles of railroads and the many freight distributing points, will afford merchants

and manufacturers unexcelled shipping facilities.

There seems to be some difference of opinion as to the best kind of piers to be built in Philadelphia. In Europe the general practice is to build solid piers of earth and stone, or concrete, with warehouses on the same, and to use traveling cranes in loading and discharging cargoes from the vessels. In this country the general practice has been to build piers of one or two decks, and to use the ships' derricks and winches — or similar devices — in loading and discharging cargoes. Both types of piers have their advantages and disadvantages, and depend somewhat on local conditions as to their best uses.

With my annual report for the year 1910, dated January 27, 1911, I submitted three different plans of piers — that have received the approval of the local shipping interests — in which I endeavored to combine the advantages of the European and American types of piers. These plans call for piers sufficiently wide to erect warehouses on the same and give ample space for railroad tracks and driveways, etc., as will be seen on the accompanying sketches.

Fortunately, the present administration of this city, the maritime interests and commercial organizations of Philadelphia, fully realize the importance of maintaining our

position as a maritime port and have, therefore, been instrumental in bringing about the deeper channel in the Delaware River and many harbor improvements. With such powerful interests working for the betterment of conditions, we feel confident that, in the very near future, we will have better facilities than heretofore and be in a position to offer special inducements to manufacturers and shippers, and to steamship lines that have hitherto not established terminals at this port.

LOS ANGELES HARBOR, THE GREAT ARTI-FICIAL PORT IN SAN PEDRO BAY

HON. T. E. GIBBON

Member of the Board of Harbor Commissioners

Mr. A. P. FLEMING

Secretary of the Board of Harbor Commissioners

SINCE 1871 the United States government has been engaged in building a harbor which may be described as almost entirely artificial, to serve the commercial needs of the city of Los Angeles and the southwestern portion of the United States. In view of the completion within the next few years of the Panama Canal, this harbor is expected to become a most important factor in the commercial life of the Pacific slope, by which is meant that portion of the United States lying between the Rocky Mountains and the Pacific Ocean.

September 4, 1781, the pueblo of Los Angeles was established as a sort of military colony by the Mexican government. As the colony grew, and the country became occupied by great ranches upon which vast herds of cattle pastured, vessels began to call at the nearest available landing place for the purpose of exchanging goods for hides, the only article of export afforded by the country for many years. This landing place was furnished by the peculiar conformation of the coast line at a point about twenty miles from the pueblo. At this point, from a low sandy beach which runs approximately north and south, a bold headland called Point Firmin juts out a couple of miles

west into the ocean. Where this headland joined the sandy coast line a salt water estuary or lagoon ran up into the land some four miles. This estuary, where it joined the ocean, was at low tide a few feet deep, and extended up into the land in the form of narrow, well-defined channels of an average depth of probably ten feet at high tide, from which on each side spread salt water flats several thousand acres in extent, which were inundated at high tide, but most of which were bare at low tide.

As the only dangerous winds on this coast are from the southwest, the angle formed by the joining of the headland to the sandy shore furnished a fairly protected area in which vessels could anchor and send their boats up the estuary to a landing place, where the goods they brought could be delivered, and the hides which they sought as return cargo could be received.

After the country came into the possession of the United States, and the pueblo of Los Angeles began to grow as an American town, and the surrounding country to increase in population, a railroad was built from Los Angeles to the landing place at San Pedro, and considerable ocean commerce sprang up there, which was handled by lighters towed by tugs between the vessels anchored in the protected deep water area under the point and the landing place up the estuary.

Finally the people undertook to have the Government develop a harbor more adequate to accommodate the increasing commerce, and as a result of an examination by Government engineers, an appropriation of two hundred thousand dollars was made by Congress in 1871 for the purpose of constructing jetties and deepening the estuary by dredging at and near its mouth so that light draught vessels engaged in the coast trade could enter it and lie at wharves to be constructed at its western side, which was reached by the line of railroad from Los Angeles. The Government at various times made appropriations for this work of deepening the estuary, which became known as the Inner Harbor,

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until about sixteen feet was obtained for a distance of half a mile from its entrance.

In the latter part of the decade between 1880 and 1890 an effort was begun to secure a deep-water harbor capable of accommodating the largest class of ships in ocean com-As a result of further examinations by several boards of engineers, a plan was made for constructing a deep-water harbor by extending a jetty or breakwater out from the headland almost due east for ninety-two hundred and fifty feet, and curving in the form of a great arm around a deep-water area of about five hundred and seventyfive acres, three hundred and seventy-five acres of which has a depth of thirty to fifty feet, and two hundred acres a depth of twenty to thirty feet. This jetty was intended to afford a deep-water harbor protected by land on the north and west, by the breakwater on the south, and opening to the east. Inasmuch as there are never any dangerous winds from the east, this was expected to afford a perfectly protected and safe anchorage for vessels.

In 1896 Congress appropriated two million nine hundred thousand dollars for carrying out this work. The beginning of it was delayed for some time, but in 1899 it was begun, and has been continuously prosecuted since that time to its completion a few months ago. The jetty takes the form of a huge breastwork of rock, one hundred and twenty-two to one hundred and ninety-four feet wide on the bottom; thirty-eight feet high at low water, and twenty feet wide on the top, and extends fourteen feet above low water; and is composed of courses of huge blocks of squared stone varying in weight from eight tons up.

Los Angeles Harbor was acquired by the city of Los Angeles by the consolidation of the cities of Los Angeles, Wilmington, and San Pedro, and originally consisted of Wilmington and San Pedro harbors, and has been referred to as the Outer and Inner harbors in San Pedro Bay.

The entrance to Los Angeles Harbor is wide, deep, and unobstructed, and any vessel that can live to approach the

entrance can enter an open area that insures complete protection from the most violent storms. Catalina Island, with its mountainous formation, located approximately twenty-two miles to the southwest, with a length of approximately twenty-four miles, is such an additional protection that in the opinion of experts the present breakwater is so constructed as to stand against the attacks of the fiercest storms for all time to come; and when you take into consideration that one of the principal items of expense in the maintenance of harbors generally is constant dredging to preserve the channels, it is instructive to note that Captain James J. Meyler, in his report to the Government, brings to the front the fact that in this particular Los Angeles Harbor stands unique. His statement is as follows:

"Without sedimentary deposits in its waters, or a great mass of sand to be removed by scour, the only shoaling to be found at the entrance or in the harbor would be that caused by erosion at one point and deposition of eroded material at another; but years of observation have shown this action to be almost insignificant. In fact, at no harbor on our coasts are the conditions known to be so favorable toward the maintenance of a channel depth once obtained. With the sand movement so small and the protection of the entrance about to be increased by construction of the outer breakwater, which will still more effectually cut off the piling-up effect of the southerly storms and prevalent westerly swells, it would be difficult to find a situation more favorable to further improvement by means of dredging."

There has been expended in the harbor up to the present time by the United States Government, including the breakwater, four million, five hundred and thirty-eight thousand, ninety-seven dollars and twenty-five cents. The Rivers and Harbors Bill of 1910 provides for the expenditure of four hundred thousand dollars for dredging, and one hundred and seventy-eight thousand dollars in the closing of the gap between the present breakwater and the shore; and when this is closed there will be a breakwater eleven thousand and fifty

feet long protecting the outer harbor and the entrance to the inner harbor.

Total appropriation of the Government for the improvement of the harbor to date five million, one hundred and sixteen thousand, ninety-seven dollars and twenty-five cents.

Los Angeles Harbor, when developed as contemplated by the established harbor lines, will have an available harbor frontage of between twenty-one and twenty-two miles, capable of accommodating an annual tonnage of fifteen million tons. This does not include the frontage of thirtysix hundred feet in the Southern Pacific slip, the Consolidated Lumber Company's seventy-three hundred and fifty feet, or the slips planned and to be immediately dredged by the city in its holdings at the entrance to the inner harbor, which will be near sixty-eight hundred feet, or the slips now being dredged by the Pacific Wharf & Storage Company, which will amount to as much more. Compare the available capacity of Los Angeles Harbor with the reported tonnage of Greater New York, 20,458,526 tons, London 17,600,000 tons, Liverpool 16,000,000 tons, Manchester 5,000,000 tons, the entire bay of San Francisco 8,768,336 tons, and the city of San Francisco 6,802,792 tons. These figures will explain to you why we so confidently predict the great future of Los Angeles Harbor.

The Outer Harbor Dock and Terminal Company is reclaiming a tract of about one hundred and fifty acres in the outer harbor and is now engaged in building wharves and dredging channels, and within a short time will be ready to receive deep-water vessels and accommodate them with adequate wharf privileges.

The city of Los Angeles has declared it to be its policy to expend at least ten million dollars, within the next ten years, in the development of the harbor, by the building of warehouses, docks, wharves, terminal facilities, modern and up-to-date methods of handling of freight and providing ample means of distributing the commodities that come in and go out of her harbor. Three million dollars has already

been provided by a vote of the people, authorizing the issue of bonds for harbor improvement, which said amount will be used for the building of a permanently constructed highway or boulevard connecting both the outer and inner harbors with the entire city, and for the building of wharves and warehouses both in the inner and outer harbors. It is confidently predicted that active work will be commenced within the next four months.

The city proposes to avail itself of the most approved practice in dock, wharf, and warehouse construction in this country and in Europe, and to that end will put the work in the hands of a board of harbor commissioners and experienced engineers, who will, if the usual business methods of Los Angeles are adopted, personally inspect the principal harbor constructions of the world, so that the very latest devices for handling commerce cheaply and expeditiously may be adopted for this harbor. The improvement is so planned as to be completed by 1915, when it is expected that the Panama Canal will be opened for commerce.

The city has also planned to construct and operate a line of double track municipal railway extending from the present business center of the city to the harbor, and connecting with all of the municipal wharves around it. The tracks of this railway connecting with the wharves will be open to the cars of all railway companies having lines to the harbor.

It is expected that the harbor, when the Panama Canal is completed, will command a very large part of the commerce of the Pacific slope on account of peculiar geographical and transportation conditions which are particularly favorable to it.

The great circle route extending from the entrance of the Panama Canal to the oriental ports of Yokohama, Kobé, Nagasaki, Hong Kong, Shanghai, etc., along which all American and European vessels passing through the canal and engaged in oriental trade will pass, lies out in the Pacific Ocean only seventy miles from Los Angeles Harbor.

The three lines of transcontinental railways now centering in the city of Los Angeles put it in touch with every part of the Pacific slope lying between the Rocky Mountains and the Sierra Nevadas, and bring it several hundred miles closer than any other Pacific coast port to all that portion of the Pacific slope for handling the commerce coming through the Panama Canal for distribution throughout that territory, or which may be collected from it to pass through the Panama Canal.

Los Angeles Harbor compares favorably with any of the well-known harbors of the world and is susceptible of being developed with a very small amount of money as compared with that expended for the development of European harbors, so that it may well be called one of the most economical harbors to construct and maintain in the world.

Your attention is called to the financial situation touching the leading European ports. The amount of money represented by modern port development, as near as can possibly be ascertained, is as follows:

London	\$186,700,000	Antwerp	\$45,000,000
Liverpool	125,000,000	Hamburg	100,000,000
Manchester	90,000,000	Rotterdam	33,000,000
Glasgow · · · ·	40,000,000	Marseilles	29,500,000
Newcastle	80,000,000	Havre	24,000,000
Bristol	30,000,000	Montreal	10,000,000
Cardiff	30,000,000		

There appears to be no doubt that the superior cheapness of water transportation will result in much of the fruit and agricultural products of California and the Pacific slope being sent to the East by water rather than by the transcontinental railways, as is done at present.

In preparation for a great development in commerce, Los Angeles has entered upon the expenditure of ten million dollars for municipal wharves and warehouses. It is now spending twenty-five million dollars in bringing from the mountains, two hundred thirty miles away, a supply of

water for its immediate and future needs, from the energy of which it expects to reap the advantages of one hundred and twenty-five thousand electrical horse-power which can be used in furthering manufacturing and in the development of natural advantages, together with approximately thirteen hundred acres of tide land recovered by the city from private interests, which will be available for terminals, warehouses, and manufacturing sites. These are some of the facts that we think show conclusively that Los Angeles Harbor is the future gateway to the Orient and European ports, and that here is the future great residential, manufacturing, maritime city of the coast, if not of the world.

BALTIMORE HARBOR IMPROVEMENTS

Mr. OSCAR F. LACKEY
President Harbor Board, Baltimore

BALTIMORE is located one hundred and fifty miles northwesterly from the mouth of the Chesapeake Bay, and is connected with the Atlantic Ocean by a channel thirty-five feet deep and six hundred feet wide. It is known as a landlocked port and one of the safest and best harbors of the world. All that is needed to make it second in commercial importance on the Atlantic coast is a liberal policy and a continuation of the harbor improvements started in 1904. By reason of its geographical location, from its inception, the city became a railroad center and a distributing point for merchandise that came over all seas, from all lands. The ships bringing merchandise were sent back with products of every section of this country. The old Baltimore Clipper was famous and sailed every sea and was known in every port long before steam became the propelling force of commerce. Modern methods, inventions, and artificial conditions have done a great deal to help Baltimore, but the natural conditions of her wonderful port gave her the advantages over any other city on the eastern coast, and had she not been handicapped by too much conservatism, she would to-day be the largest seaport town in this country.

Baltimore has been allowed to drift along from the day she was incorporated until 1904, without the city or State showing any appreciation of her unlimited, safe, and natural port. After the fire of 1904, the people of Baltimore awoke to the realization that with the expenditure of a little money

the port of the city could be developed to the highest point of efficiency, where she could compete with the other cities for the commercial supremacy of the Atlantic coast.

The waterfront of the harbor of Baltimore is about eighteen miles in length, and prior to the improvements made after 1904, the city virtually owned none of its waterfront. To-day the city owns nine per cent, and the railroads seventeen per cent, and private interests seventy-four per cent.

Immediately after the great conflagration of February 1904, when forty-six blocks in the heart of the city covering one hundred and forty acres were destroyed, the voters ratified a six million dollar dock loan. With the money thus made available the city purchased about four thousand two hundred lineal feet of waterfront property and constructed its first eight municipal piers, which are to-day paying nineteen thousand dollars profit in actual cash in rental, and increasing yearly.

The piers as constructed by the city provide for a depth of water of twenty-four feet from mean low tide, which can be increased to twenty-seven feet, and is ample depth for any vessels that are likely to want to berth in the upper harbor. In fact, the width of the basin where these piers have been constructed is not great enough to allow a vessel of greater depth than twenty-seven feet to maneuver.

Satisfied with the results of the work completed, the voters in 1910 approved an additional loan of two million dollars for the purpose of acquiring property and constructing a commercial thoroughfare around the south side of our harbor. This street is to be constructed one hundred and six feet in width between building lines, with ten-foot sidewalks on a maximum grade of two per cent. In addition to the street on the south side there is to be constructed a commercial and recreation pier between Broadway and Ann Street.

I have recommended that the street carry a single track, and that there be constructed a railroad belt line connecting both sides of the harbor, the same to be owned and controlled

by the city. I am trying now to solve the best way to finance such a project. To carry such a project to a successful termination would require the co-operation of the railroads having franchises in the bed of streets. It may be possible for the city to do all necessary construction work and turn it over to a company representing the railroads, and have them maintain and operate the line, subject to laws that may be enacted by the mayor and city council of Baltimore City.

I feel better results would be obtained from our piers were the leases made for a shorter duration and subject to certain restrictions, as are the public docks of San Francisco. The principle of municipal ownership is destroyed when a pier, or part thereof, is turned over to the exclusive use of any firm, corporation, person, or company, for fifty years, or even any less number of years. Municipal piers and docks are constructed to take care of the general commerce of the port and should, in my opinion, be rented by the month, with the provision that when the same are not being used by the vessels controlled by the tenant the city shall, at its discretion, be allowed to dock any other vessel at said pier, paying any wharfage or dockage collected, as provided for by law, to the respective tenant. Under such conditions the city would, at any time, be able to provide a berth for a vessel belonging to a line that has not regular sailings from this port.

Further, there can be no doubt of the advantages regarding the absolute ownership and control of all structures on city piers. No person nor corporation should own any structure whatever on city property, nor should any structure when built by the city be under the exclusive control of any person or corporation.

When I first advocated municipal ownership I brought upon myself some very severe criticisms, yet I am willing and anxious to again put myself on record as favoring municipal control and ownership of the waterfront.

I do not believe it should be the policy of the city to

acquire that property which is improved and now in use, but I do believe it should be the policy of the city to acquire from time to time, by private sale or condemnation, unimproved and vacant property along the waterfront, and hold the same until there is some reason and some demand for its improvement.

The general discussion was participated in by Meyer Lissner, Chairman Board of Public Utilities, Los Angeles, who gave an account of the development of the harbor of San Pedro in the city of Los Angeles; by Edward H. Bennett, who spoke of the development of the port of Portland, Oregon; by C. E. Rust, Chief Engineer of Toronto, who spoke of the plans for the development of the harbor of Toronto; by Mrs. Lenora A. Hamlin, who spoke of the plans for the development of a harbor in St. Paul, and by A. W. Crawford, Philadelphia, Pa., William W. Emmart, Baltimore, Md., and Mayor John E. Reyburn, who brought out the necessity of co-operation between the city and the railroads and between the city or state government and the federal government, in order to effect plans for extensive By getting dock development without prohibitive cost. federal authorities to shorten the distance between pierheads, for instance, in the case of a river front development, much expense in connection with the condemnation of property incident to the extension of the pier inland would be saved.

In reply to questions from the floor Mr. Tomkins said although the housing situation had not been considered in connection with the New York and Brooklyn system of docks, there were great sections of marsh land partially overflowed in the Jamaica Bay district and at Press Kill on Staten Island, which would afford an excellent opportunity when these developments were proceeded with to consider living conditions along with trade conditions. Mr. Tomkins further pointed out in reply to a question from the floor whether it would be necessary to have the traffic coming

into New York on the belt line pay the cost of transportation of the return cars, that the movement of empty cars was an insignificant factor in comparison with the terminal charges, and that even if no arrangements were made to avoid this movement of empty cars, the expense would be trifling when compared with the delays and expense incident to handling commodities by trucks, and the congestion at the terminals themselves.

STREET WIDTHS AND THEIR SUBDIVISION

MR. NELSON P. LEWIS

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In discussing city planning there is a disposition to concentrate attention upon the larger and more spectacular aspects of the problems, such as effective location or grouping of public and semi-public buildings, the provision of arterial thoroughfares both radial and circumferential, the treatment of the waterfront, etc., or to social and sanitary considerations, including housing, avoidance of congestion, proper provision for light and air, restrictions as to height of buildings, and other questions which are now receiving serious attention from students of municipal affairs. In this country relatively little study has been devoted to the economic questions involved in a determination of street widths and in the apportionment of their width between roadway, sidewalks, and planting spaces. Most cities have a traditional policy, usually inherited from the first plan made by a surveyor, to which they have adhered more or less blindly. Considerable intelligent study, often by the best available experts, has been devoted to the location and improvement of parks and parkways, to the design and effective placing of public buildings, to the provision of transit facilities both for passengers and goods; but for the ordinary streets, in which the great masses of the people work and live, almost anything has been considered good enough. Little consideration has been given to the effect of street widths upon the cost of the abutting property in purchase price, or rent to the owner or occupant of city houses, or

to the city at large for the maintenance and renewal of pavements. Different streets will and should be used for different purposes, some chiefly for vehicular traffic, some for business, some for residences of those who wish to build imposing homes to impress others with their wealth, and others again, — and these by far the greater number, — for modest homes of those who, owing to taste or necessity, wish the greatest comfort for the least outlay.

In streets of similar width is there or should there be a fixed ratio between roadway and sidewalk widths? If so, what should it be? In most cities there is such a ratio. but, like the street widths themselves, it is one which has been fixed by ordinance or precedent without any very intelligent consideration. Not only must the street plan be made long in advance of actual development, but the physical improvement of most streets by curbing and paving will be demanded before their ultimate character or their traffic requirements can be predicted with any degree of certainty. A carefully made plan will probably anticipate with a fair degree of accuracy the kind of development which will take place on each street, or perhaps it would be better to say that the kind of development can be largely controlled by careful and intelligent planning. In many streets which have been given a width of seventy feet or more, in the expectation that they will become important thoroughfares, it is highly probable that a roadway width of forty feet, and in some cases considerably more, will eventually be required. The first improvement of these streets will occur many years before the necessity for such roadway capacity exists. To provide a needless roadway width in connection with the first improvement will involve a serious and wholly unnecessary burden upon the abutting owner for construction and upon the city for pavement maintenance and renewals. In such cases the roadway could properly be paved at a much lesser width, the footways and trees, and even the fire hydrants, being so placed that the curb could at any future time and at slight expense be set back to provide such wider

roadway as may be demanded. Such a widening of several important streets in New York City has recently been undertaken. Fifth Avenue and Twenty-third, Thirty-fourth, and Forty-second Streets are all one hundred feet in width, and all of them except Fifth Avenue are occupied by doubletrack surface railways. All were constructed with roadways of forty feet and sidewalks of thirty feet on each side. The sidewalks had all been obstructed for a substantial portion of their width by encroachments of various kinds. Increased roadway capacity became necessary, and the roadways of Fifth Avenue and Forty-second Street were increased to fifty-five feet each, while all encroachments were ordered removed which extended more than two and five-tenths feet beyond the street lines, leaving unobstructed sidewalks twenty feet wide. This change has already been made on Fifth Avenue and is now in progress on Forty-second Street. In the case of Twenty-third Street, the new roadway is to be given a width of fifty-three feet, as is also the roadway of Thirty-fourth Street, while the restriction of encroachments will be somewhat more severe than in the case of Fifth Avenue and Forty-second Street, being governed by a general order of the Building Department issued in January of the present year, under which non-supporting columns or pilasters, including their moldings and bases, may project not more than two and one-half per cent of the width of the street, and in no case more than two feet. Steps at entrances included between ornamental columns, pilasters or cheek pieces at least three feet high at the sides of such entrances may project not more than two and one-half per cent of the width of the street, but in no case more than eighteen inches, and providing also that they do not exceed together or separately one-fifth the width of the lot. Moldings or ornamentations of decorative character and base courses, including the water-table, may project not more than one and one-fourth per cent of the width of the street, but not more than ten inches, while rustications may project not to exceed four inches beyond the building line.

The question of encroachments beyond the street line is a very troublesome one in all cities, but the limitations of our subject do not permit more than a reference to it.

For boulevards or parkways of exceptional width no uniform treatment can be prescribed. Their subdivision varies greatly. The Avenue des Champs Élysées has but one broad roadway, one hundred and fourteen feet in width. In other cases two side roadways are provided, each from thirty to forty feet wide, while the central space is parked. More frequently there are three roadways, separated by planted spaces, bridle paths, bicycle paths, or even surface railway reservations. In these cases the central roadway is from thirty-five to seventy feet in width, while those at the sides appear to vary from fifteen to twenty-five feet. Each of these very wide streets requires special treatment, and should receive the most careful study.

Other problems which should be considered in city planning, but which are generally ignored, are those of the selection of the kind of street surface or pavement, the regulation of the widths of vehicles and their loads, and the disposition of the great number of underground structures with which modern city streets are filled. The object of city planning is to promote orderliness in arrangement and rational adaptation of streets to their proper functions. This should apply not only to the plan or map, but to the subdivision of the street and the treatment of these subdivisions, and to the disposition of the various adjuncts of the modern city street both above and beneath the surface.

The Committee on Street Planning has thought it desirable to restrict somewhat narrowly the subjects to be presented at this session, and has endeavored to make them thoroughly practical in their character and scope.

THE NARROWING OF MINOR RESIDENCE STREETS AS AFFECTING TENANT AND OWNER

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It is well to begin any discussion with a definition of terms. Let us say, therefore, at the very beginning, that the phrase "minor residence streets," as used in the title of this paper, may be treated as a definition. Its wording excludes all main highways, all avenues, and boulevards, and for the purpose of this discussion it shall be held to exclude all streets which carry a through travel that so much as even equals the traffic originating and terminating within the street itself. Accepting this as our understanding of the term, we shall exclude also from our consideration all streets that carry car lines or that are routes convenient for general teaming, driving, and motoring.

Thus it is clear that the paper will be dealing for the most part with streets that are relatively uninviting to traffic, either because of the special development of other thoroughfares, or because of some physical handicap of their own, such as indirection, heavy grades, or a break in continuity. Their traffic relation to the street plan of the city and its suburbs, will be mainly the harboring of the little eddies left at the side by the mighty traffic streams which flow through main thoroughfares. Because they have this character they will be generally in close connection with major streets and traffic highways. If we fancy an ideal city

plan, in which arterial streets radiate from a common business center, we shall expect to find the minor streets located between the radii. They will not be limited, that is to say, to any one residential section of the city. They do not exclusively belong to any one class of citizens. Necessarily, therefore, they vary in character. The shack-lined alley off a third-class business street, and a private "Place" off a fashionable avenue will alike be considered here as a "minor residence street."

It is obvious that the streets which are to be discussed are very numerous and of much importance in the city's life. They are more numerous, indeed, than any other single class of streets; an imposing proportion of the total number of citizens dwells upon them, and the lives of these people are intimately affected by the character of the streets. The streets are minor, considered only in themselves and their street relations; they are not minor as regards their social value or their economic influence upon rents.

As this paper is to discuss the latter point, it is well immediately to emphasize the fact that their economic influence, for good or ill, is not their only influence. A moment's reflection explains this: Between two minor residence streets, or between two well defined divisions of one of them, there may be the diameter of the whole social structure. If, then, even the width of these streets be standardized, so that they all tend to uniformity, and the lives of the residents are not, and cannot be, reduced to a fixed social mean, there must inevitably result a series of misfits, of which the outcome can be only prodigality, social inconvenience and a general mal-adjustment to real conditions. There are other ways in which standardization means extravagance and maladjustment; but I shall speak of only the one matter of width.

In so doing I take up the economic effect, as regards rents, because it is the easiest measure of cost; and that effect, of course, carries suggestion of many far reaching tendencies which necessarily develop from it. As the English

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have set forth the matter in convenient statistical form, and the principles are the same in either country, I avail myself of some English figures.

Alderman M. W. Thompson, chairman of the National Housing Reform Council of England, in his valuable compilation, "Housing Up to Date," states that under modern conditions of subdivision the cost of roads, sewers, etc., reaches in some cases as high as nine pounds per room, or forty-five pounds per cottage, and that it averages nine pounds per cottage. This calculation is based on statistics covering thousands of cottage dwellings, and since the word "cottage" means in this connection houses built in continuous rows, - that is, dwellings that occupy with their grounds a minimum street frontage, - it reveals the effect on rents for even the cheapest homes. As to the more costly villa type of dwellings, the same authority notes that the English by-law requiring a paved or macadamized road surface of about forty feet, has made the cost of thoroughfares, in newly developed estates on the outskirts of towns. from two hundred to five hundred pounds per acre - " or more than the land itself."

John S. Nettleford, in his "Slum Reform and Town Planning," calculates that the interest on the expenditure for street work "comes to one shilling or more per week on a house rented for six shillings, if the number of houses is restricted to fifteen per acre." One must hear that statement twice to get its full significance, and must realize that the suggested restriction is not a low one. At Bournville, the houses are restricted to eleven to the acre, and at Hampstead Garden Suburb to only eight. Yet at fifteen to the acre, one sixth or more is added to the weekly rent by the English by-law requirement of forty-foot streets.

Raymond Unwin puts the unreasonableness of the requirement in this striking way: "A mansion such as Chatsworth or Blenheim will be adequately served by a simple carriage drive from thirteen to twenty feet wide. The population of such a building will be larger than that of a row

or group of cottages, and the amount of wheel traffic to and from it many times as great; yet for the cottage road asphalt or concrete paved footpaths, granite curbs and channel, and granite macadamized surface, the whole from forty to fifty feet wide, and costing, with the sewers, etc., from five to eight pounds a lineal yard, are required by the local authority, under our existing by-laws."

The burden of all this cost, to which is to be further added the value of the land thus withdrawn from productive use, is borne by the occupants of the district, whether they be tenants or owners. Now, as the tenant, in choosing his house, theoretically chooses the best he can afford, it can be argued that the rent factors which are imposed by the community in its official capacity, and without his permission, really go far to fix the scale of his living. And this clearly is true, even when admitting that the normal tax rate has of itself—as economists now quite generally claim—little effect on rents. The importance of the subject thus becomes clear. If our present method of standardization is unduly extravagant, it should not be permitted to persist simply through inertia and because it saves trouble in surveying and thinking.

The new town planning act in England recognizes the condition, by permitting English local authorities, in order "to secure proper sanitary conditions, amenity and convenience" to relax or modify former requirements, breaking away from the tradition that all streets should be of like width and like strength. Furthermore, the act itself recognizes three distinct grades of roads — main arterial, secondary, and residential.

Further interesting testimony is given by the Germans, who in the earlier days of deliberate town planning were wont to construct very broad streets when developing outlying areas. For example, in the discussion which followed the presentation of my paper on this subject at the Town Planning Conference in London, last October, Dr. Hegemann of Berlin traced the relation of cause and effect between the

wide streets and the tenements with which those streets are lined in the more remote portions of the German capital; while Thomas Adams, of the town planning department of the Local Government Board, of England, said that after investigating conditions in Germany and Sweden, he had come to the conclusion that the system of high tenement-block dwellings was as much the result of wide roads, as wide roads had become the result of the tenement system. The one, he said, was complementary to the other. It was necessary that the owner extract from each yard of his frontage enough rent to pay its share of the costly street.

At the same conference Dr. Eberstadt, in a formal paper, told how English visitors are driven about the German cities and shown imposingly broad streets "with a display of asphalt that would empty half the pits of Italy, and a show of granite sufficient to level down the mountains of Sweden, lined all along with huge five or six story tenement barracks." Some English visitors, he added, were full of admiration for this sort of thing; but he testified that the Germans, who have had the opportunity to study it at close range, "now wish to do away with it, as far as may be practicable, and to make their aim the English home, the cottage, the individual house."

That in England and America broad streets, in areas where the poor are congregated, are not — save in New York — as commonly lined with tall tenement barracks as in Germany, does not mean that the same economic law is not in operation, or that it operates less unfortunately. A social repugnance to the big tenement, except as a last necessity, has led to the construction of small houses (often more crowded per room, and less sanitary, than is the tenement block), and then, to squeeze from the land the higher rent necessitated by the cost of frontage on an expensive street, has induced the construction of another house, sometimes a small tenement, on the rear of the lot. These houses hidden by the structures in front, are uncontrolled by ordinary police inspection and unaffected by public observation

and criticism. They become such breeding places of disease and vice, that at last, in city after city, it becomes necessary to forbid their erection.

Of great significance, also, is the fact that could there be cheaper minor streets for residence purposes, less capital would be required in the development of estates, less land tied up for want of the capital, and more land thrown open for building.

Perhaps we may not think it part of the town's business to build decent dwellings for its poorer citizens - though in Europe the clearance of slums and the re-housing of the people thus displaced has been accepted as a very important, and also very costly, part of municipal activity. Yet we must recognize that the city should at least do what can be done, by the wise building of streets, to encourage good housing. In its purpose to make citizens, rather than simply add to the total of street area, it must avoid, as far as it may, whatever fosters the "warehousing" of men, women, and children in tenement barracks; it must discriminate between shelter and "home," seeing in the latter more than simply the four walls of a dwelling; it must realize that a policy which provokes unwholesome methods of living, through compelling a too intensive use of the land, drains the municipal treasury in other and more serious ways than simply for the cost of making and maintaining needless The maintenance of health and morality broad streets. among poor people who have to live on lots of high priced frontage, is a more expensive business than is the maintenance of the street. And failure in it is a more serious matter to the community.

But it is our duty to consider the owner as well as the tenant. In fact, the ideal would be a condition in which each citizen would own his own home, the tenant becoming a relatively negligible quantity among the multitude of lot owners.

Fortunately it does not always happen that the tenant's gain is the owner's loss. If the narrowing of minor residence streets tends to reduce rents, it does not follow that it tends

to reduce property values. The latter are for the most part—as regards property of this character—the capitalization of net income, expected if not realized. A reduction in rents, which results from reduction in carrying charges, may leave net income unaffected.

But this does not mean that a method of street designing adjusted to street needs would not have any influence upon property values. Real estate would feel its influence in

various ways.

In the first place it would tend to create stability in values. This effect would be seen alike on the main thoroughfares and on the minor streets. The concentration of through travel upon certain streets would raise the value of the frontage on those streets for commercial purposes; while the assurance that intermediate streets would not be encroached upon for business purposes would not only settle definitely the business character of the chosen main highways, but would have a beneficial effect upon property on the intermediate streets. The reason for this is the certainty which would then be gained that they would be free from the danger of invasion by elements inconsistent, and out of harmony, with their present use. The more certain, it has been well said, a man can feel that the character of any given street is fixed, the more he is willing to pay for the privilege of having a lot on that street, if it is the kind of a street he wants. He justifies this willingness from an economic standpoint by the argument that the property, for the use for which he desires it, will not decline in value.

Another effect of a more rational method of street platting, would be, as already suggested, the opening of additional tracts for building purposes. This means that fewer persons owning property on the outskirts of cities need be "land poor." There would follow a greater equalization of values between adjoining properties.

Over against the possible depressing effect upon values, which would be anticipated from a greater supply of available building lots, is to be put the increase in demand, which

may be expected to follow an enhancement in the attractiveness of small streets. It must be clear that streets which follow more nearly the topography, which make use of every natural advantage, which are narrow, grass bordered, quiet ways, rather than broad and dusty highways that are hot in summer and cold in winter, would call men from the city streets with an even greater appeal than suburban tracts now call. In the announcement issued by the Russell Sage Foundation, of Forest Hills Gardens, the following sentence, significant from this point of view, was prepared by the landscape architect: "Probably one of the most notable characteristics of Forest Hills Gardens will be the cosy domestic character of these local streets, where the monotony of endless straight, wind-swept thoroughfares, which are the New York conception of streets, will give place to short, quiet, self-contained and garden-like neighborhoods, each having distinctive character."

Though a good deal has been said about the cost of making needlessly wide streets, a factor of scarcely less weight is the cost of maintaining such thoroughfares once they are built. The man who held property on a small street would make a great saving in this respect. His saving would represent not only the economy of having to provide for the depreciation of a smaller area of street. but it would be the result of a much less rapid rate of deterioration. This is because there would be nothing but local travel to wear out the street. The present property holder on a typical suburban street is very much in the position of a man required to cover his front sidewalk with a Brussels carpet which each person who walks past his house does something to wear out. As everything is done to invite people to go through the street, and as now-a-days a great many playloving persons are riding their little velocipedes up and down, - in other words automobiles, - the carpet wears out very fast. The man has not awakened yet to the injustice of the demand that he provide the carpet where he does not want one, and then invite people, who are only a nuisance to

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trated upon their streets. This is tr answers to the objection: In the first would at once gain speculative valu commercial possibilities which are to mediate streets, and which pay such second place, it would be unfair, wh that wide streets be put through a reconvenience of communication between either side of it, to require that the payers should pay the cost of street v might reasonably be held to make for frontage and for the increase of its spell it is probable that, taking the city or as a whole, the deterioration of pay less than under the present system smaller street area to take care of, such as asphalt, deteriorate less rate fairly heavy and constant stream of by concentrating the bulk of the traffi number of selected streets, these could

for it, and given a width and style of pavement calculated to handle the business with the least delay and the smallest cost for operation and maintenance. Then each purely local street could be developed in the way that would best suit

the needs, the means, and the taste of the people it is designed to serve.

A final consideration with reference to real estate values is that only such a system of street designing as here proposed can make just and reasonable — and that is to say, can make possible — a radical restriction of the number of houses which may be constructed to the acre. If the city is going to say to the owner of a certain tract that he can construct not more than fifteen houses to the acre, it must say to him that he will not have to pay for the development and maintenance of the streets in his tract any such sum that thirty houses to the acre would be necessary to give him an adequate return on the investment. Conversely, if the owner is to be relieved of the cost of constructing wide streets, he must agree to a restriction of the land's human capacity - by limiting the height of his houses and their number per acre — to an aggregate giving such traffic as the street can care for. If, that is to say, adjustment of street width to street need is required, to make reasonable the placing of a restriction on land development, such adjustment carries with it an obligation to consent to the restriction.

It is clear, under these conditions, that the city, when it imposes a limit on the number of houses which can be erected in a given area, does place an approximate limit on the amount of traffic for which provision need be made by the local streets of that area. The necessity will no longer exist to require that there be adherence to rigid specifications designed to take care of a traffic which may increase with unchecked rapidity. It does actually become possible at last to adjust the street's development to the property's development. But when no limit is set to the latter, as in unrestricted areas, the standard for the street work must be set by the dreams of the most optimistic promoter. It will be correspondingly high, and correspondingly forgetful of the common good.

STANDARDIZED STREET WIDTHS

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Ir we are to remedy the municipal ills from which we now suffer, some large physical changes in American cities are absolutely necessary and inevitable. Nevertheless, permanent progress in city planning will not result usually from spectacular schemes for the sudden transformation of our cities, nor from revolutionary programs and proposals. Advances will come more often from a patient but open-minded and scientific study of such problems as are represented by the title of this paper, followed by a close co-ordination of one subject with another in a comprehensive plan, thus recognizing the unity of the city and the inter-relation of all its parts.

It would not be difficult to convince anyone not already convinced — if such there be — of the importance of fixing street widths more intelligently and discriminatingly. At the present time an average of twenty to forty per cent of the total area of cities is devoted to streets, rising in the case of Washington, D. C., to fifty-four per cent. Therefore, even a slight variation in the width of the streets of a city becomes a matter of importance. Consider, for example what an excess of two feet in the width of the fourteen hundred miles of paved streets of Philadelphia would involve in the cost of land and paving! On the other hand — and here the lack of intelligent and discriminating action has even graver aspects — consider what the lack of a few feet in the width really necessary for streets in Philadelphia already

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involves! It involves directly the expenditure of enormous sums of money for street widening, or, indirectly, of much greater sums, practically incalculable in amount, as the penalty for conditions which still appear to our too timid minds virtually unchangeable.

The evils of the present system of fixing street widths are acute. They demand prompt but careful examination and correction. What, then, are the causes of the existing difficulties in this matter of street widths and what are the remedies? Some students of this subject are of the opinion that the evils are due, in part at least, to a standardization of street widths; to the fact that city councils or other municipal authorities have heretofore fixed upon a certain number of feet, usually forty, fifty or sixty feet, as the width for all streets. Undoubtedly such action has proved a handicap to many a city. But is the standardization itself the evil? Is it not the arbitrary and unintelligent character of that standard; and is not the remedy another standard, or other standards, rather than the abandonment of the principle of standardization? Is there not danger of reacting too far, or of reacting in the wrong direction? The remedy for a stupid standardization of street widths is not likely to be found in the abandonment of all standards, but in the adoption of more intelligent standards.

It would seem that street widths could be satisfactorily standardized because the facts upon which such widths rest are capable of definite classification and, furthermore, because it is practicable to collect scientific data concerning these facts and from this data to reason to sound conclusions with a considerable degree of confidence. While these facts are numerous and varying, they are not more so than those connected with the cutting of metals, or some of the other operations that have been so successfully standardized in the industrial world in recent years.

What are the facts which should determine street widths? They are (1) the width required for "a line of vehicles," thus fixing roadway units; (2) the width required for "a

line of pedestrians," thus fixing sidewalk units; (3) the classification of the streets of a city according to the traffic requirements put upon them, or the other functions that they are to serve; and (4) an estimate of the present and future traffic of the streets of any given class, the width required to meet that traffic, and then the standardization of that width.

(1) It is not yet possible to fix with scientific accuracy the width required for a line of vehicles, partly because the data as to the actual average width of present day vehicles is inadequate, and partly because that width is just now in process of change, due mainly to the increasing size and use of the motor truck. Nevertheless, the conclusions on this point are already fairly definite. The difference is represented by about one foot. One set of investigators holds that nine feet or thereabouts should be fixed as the width required for a line of vehicles. They base their opinion upon the fact that some motor truck bodies to-day have a width of eighth feet and that the tendency of manufacturers is to increase the width of trucks. The margin for safe clearance, taking into account average skill in driving, would require about another foot for each line of vehicles, making the total width nine feet. Other investigators find that today very few vehicles, even large motor trucks, measure more than six and one-half or seven feet in width, and that conditions of construction or laws are likely to place a limit upon advantageous width close to seven feet. This view has the support of some of the vehicle companies who hold, in the interest of the manufacturer and user of trucks, as well as the public, that six and one-half, or, at most, seven feet should be the maximum width.

It is not the purpose of this paper to try to settle finally the width required for a line of vehicles or, indeed, any other fact or specific point connected with the standardization of street widths. The purpose is merely to indicate the advantages and necessity for such standardization and to suggest some reasonable basis for it.

But to apply further the method suggested above, we may assume for the sake of making the application definite, that a width of eight feet, the present working figure of many of the best practitioners, is sufficient for a line of vehicles. As a matter of fact, not only the width of vehicles but also the load is likely to be standardized by law, so that the engineer, landscape architect, or city planner will have a definite maximum figure to work with. These limits may have exceptions, but the exceptions should be discouraged by a vehicle license tax, which would increase very rapidly on vehicles above certain dimensions.

In addition to the space required for vehicles, allowance must be made on many streets for electric cars. Assuming double tracking, which is the most economical method usually, this allowance should be not less than twenty feet.

(2) Various methods have been devised and followed for determining the width of sidewalks. The most customary is to make the sidewalk some fixed proportion of the roadway. In some cases, following this method, each sidewalk is one-half the width of the roadway; in others one-third the width of the roadway. The latter appears to represent the most frequent practice. This method, however, appears arbitrary and, in some instances, would be unsound, because the use of the sidewalks does not necessarily increase and diminish with the amount of traffic on the roadway. However, the custom of making the sidewalk one-third the width of the roadway has proved fairly satisfactory in practice. For example, in the subdivision of a one-hundred-foot business street into a sixty-foot roadway and twenty-foot sidewalks. Fixing the width for a line of pedestrians at two feet, if the application of the principle to pedestrians does not appear too academic, this allows, on a street with a total width of one hundred feet, for ten lines of pedestrians on each of the twenty-foot sidewalks. The proper width of sidewalks, the method of determining that width, and a more rigid control of encroachments upon sidewalks, all deserve more attention than they have heretofore received.

(3) The classification of the streets of a city according to the traffic requirements put upon them or the other functions that they are to serve is, of course, one of the fundamental requirements of any attempt to standardize street widths. European countries have made such classifications. Here are the figures for some of the cities of England and Germany.

The London Traffic Commission made five divisions as follows:

Main avenue	s					٠.		140	feet	
First class an	terial str	eets	a)	i				100	66	
Second class	streets							80	66	
Third class	streets .							60	66	
Fourth class	streets							40	to 5	0 feet

No street was to be less than forty feet. This standard classification, applying to London and its suburbs, is a great advance over the London Building Act of 1894, which put the average width of streets "in the public interest" at forty feet clear or twenty feet from the center of the roadway to the nearest external wall; and the Council could not require a greater width than sixty feet.

The standard classification for German cities of the second size, cities like Leipzig and Frankfort, is as follows:

Main thoroughfares					85	to	118	feet
Secondary thoroughfares					50	to	80	66
Local streets					35	to	47	66

A Prussian law, in force since 1875, apparently drawn to meet the requirements of Berlin, fixes the following dimensions for the laying out of new streets and for the alteration of old ones:

Main thoroughfares				٠	95	feet o	r over
Secondary thoroughfares					65	to 95	feet
Local streets					40	to 65	66

The width of streets in different American cities varies greatly. There are very few that have adopted standards [202]

for the classification of streets according to traffic requirements. Probably the best classification is that of Washington, D. C., which is as follows:

Main thoroughfares		٠				160 feet
Secondary thoroughfares	٠		٠			120 "
Local streets						60 to 90 feet

The German city standards, given above, appear to be more reasonable and logical than those of London or Washington, and there is a distinct advantage in having more or less range within each classification, as against fixing the width hard and fast to a single figure. It ought to be practical to classify most of the streets of a city either as main thoroughfares, secondary thoroughfares, or local streets, and to apply to them one of the standard widths adopted for their respective classifications.

(4) To determine such classification, however, requires an estimate of the recent and future traffic requirements of the streets of any given class. It does not seem wise to begin by fixing the width of a street at say fifty or sixty or one hundred feet, and then apportioning that width as favorably as may be between roadway and sidewalk. It is better to begin at the other end and try to decide what traffic capacity in roadway and sidewalk the street should provide for, thus determining which class it falls in; and then applying the unit of measurement adopted for car lines, for vehicles, for pedestrians, for trees, etc., decide upon the required width. For example, here are three illustrations of this method:

I. An average main thoroughfare is to have, say,

A double track car line	20	feet
6 lines of vehicles, 3 on each side of tracks, 8 feet each	48	66
20 lines of pedestrians, 10 lines on each of the two sidewalks,		
2 feet each	40	66
Total for an average main thoroughfare	108	"

II. An average secondary thoroughfare is to have	e, say,							
A double track car line	20 feet							
4 lines of vehicles, 2 on each side of tracks, 8 feet each	32 "							
16 lines of pedestrians, 8 lines on each of the two sidewalks,								
2 feet each	32 "							
Total for an average secondary thoroughfare 84 "								
III. An average local street is to have, say,								
Roadway for 3 lines of vehicles, 8 feet each	24 feet							
12 lines of pedestrians, 6 lines on each of the two sidewalks,								
2 feet each	24 "							
Total for an average local street	48 "							

These are only averages and are given simply as illustrations of the method of standardization proposed and its application. The range of street widths for such a classification might be as follows:

Main thoroughfares				ERF	90	to	180	feet
Secondary thoroughfares			e:		60	to	90	**
Local streets				•1	40	to	60	66

Such a standardization would naturally differ from city to city as conditions and requirements differed. Its advantages would be twofold: first in fixing the range of normal street requirements of three or more important classes; secondly in definitely and consciously trying to determine in advance to which class a particular street belonged. Of course, even with such a classification there would be many, many exceptions, - special streets, having special requirements and, therefore, calling for special provisions. But if no standards whatever are fixed — and this is the important practical point — there is danger that the normal differentiation of the streets of one class from those of another will be constantly overlooked, or that private interests through pressure and influence may succeed in securing action which is in conflict with the public requirements. It was largely to prevent these results that street width

standards, in most cases unintelligent and undiscriminating, were adopted by cities in the past. Where no standards whatever have been adopted many illustrations can be found of the abuses that have crept in, particularly the failure to allow sufficient street width for main and secondary thoroughfares.

In the discussion thus far no reference has been made to trees, grass strips, or other planting in the streets, or of space set aside primarily for the adornment of the street or for insuring the benefits of light and air and an appearance of spaciousness. Such reference was omitted merely to simplify the subject and bring it within the compass of a brief paper. Of course, trees are desirable not only in residence streets, but also in most business streets. Of the many arguments against the greater use of trees in our business streets, the only sound argument in most instances is that there is no room for them. But as with traffic so with trees. The same method should be applied. If we are to have trees we must determine the width requirements of a line of trees, or two lines of trees, or whatever else is needed. Except for temporary effects, it is not good policy to plant trees in a space that is needed for roadway or sidewalks; nor is it good policy to plant one or more lines of trees in a space that is inadequate for their successful growth. If, for instance, it is decided that six feet is the minimum space in which a line of trees of a given species can flourish, then we should standardize that width for that species of tree and provide it. Exceptions there would be undoubtedly to standards for trees as for roadways and sidewalks, but they would be recognized as exceptions and justified because of exceptional conditions. Standards can only be applied profitably to the normal, but in such matters as street widths five-sixths, perhaps nine-tenths, of all cases would be normal.

The traffic and use of many city streets increase from year to year, tending to shift some streets from one classification to another. How to provide a method of meeting

this increase is a difficult question to answer. To begin with, we must recognize that a city that is alive has growth, and that growth makes changes from time to time necessary. Street widths cannot be made right "once for all." The utmost foresight must be exercised and then adjustments and widenings made to meet new conditions. Street development, like most other features of city planning, is an unending process. In the field of education, the unending character of the process was expressed by the boy who inquired at a public library for a book which, he said, was entitled "How to Get Educated and How to Stay So." So it is with streets. The problem is how, by the exercise of skill and foresight, to design and arrange them to fulfill their functions and then from time to time how to re-design and re-arrange them to meet new requirements. In the case of streets where increased traffic is expected, the most practical method of providing for it, perhaps, would be to reserve some extra space between the roadway and sidewalk. or in the center of the roadway, or between the sidewalk and the buildings, utilizing this space temporarily as an area planted with trees and shrubs, or merely with grass.

The evils that might follow from the adoption of an undiscriminating set of standards, or from an unintelligent application of a discriminating set, have not been overlooked. They might be serious. But it is my opinion that under our present city organization such evils would ordinarily be less than those that almost inevitably follow from a lack of any established standards and from the policy of determining street widths piecemeal, as each is presented for decision,

THE STREET SURFACE

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THERE is probably no one thing in the makeup of a city that is of as much importance as its streets. This refers to their location and width, as well as their surface treatment.

As this article will deal principally with surfaces, it will be taken for granted that the streets themselves have been properly located. Their surfaces, however, cannot be intelligently considered without giving some attention to width. But before taking this matter up in detail, streets must be divided into three groups, namely wholesale, retail, and residential. It is understood, too, that it is often difficult to tell in advance to which group any street may belong, and also if it will remain in that group permanently.

Streets have two functions, one to give light and air, and the other to facilitate travel, both pedestrian and vehicular. For the former purpose the width should be varied according to the height of adjacent buildings, and for the latter according to its traffic.

As a rule a wholesale street is not a thoroughfare, and consequently a width that will fill local requirements is ordinarily sufficient. For the same reason a wholesale street is used but little for pedestrians, so that a wide sidewalk is not necessary. A wide sidewalk is even a detriment, for, as in most cities goods are taken from the buildings across the walks to the trucks, these walks should be no wider than is absolutely necessary. If, then, the minimum width of a wholesale street is taken at sixty feet, how this width

should be divided as to roadway and sidewalks is the question. In such a case as this it is easier to assume the vehicular than the pedestrian wants, and if the former be satisfied without at the same time interfering with those of the latter the entire solution ought to be fairly successful.

But one tier of trucks can be loaded in front of any building at one time. The large trucks in Manhattan, backed up against the curb, occupy thirteen and one-half feet. If the opposite side of the roadway be similarly used, twenty-seven feet in all will be blocked to transient travel on the street. As a general proposition the width of the roadway should be sufficient to allow trucks to load on both sides without impeding the lines of traffic each way. If the roadway be assumed at forty feet, and thirteen and onehalf feet be occupied on each side, there would be left a width of thirteen feet in the center, which will be hardly enough for this purpose. It is probable that both sides of the street will not be occupied all the time, especially with the largest size trucks, so that traffic could move fairly well in both directions under these conditions; but if the sidewalk width should be reduced one foot more on each side, making a roadway of forty-two feet, there would be no serious obstruction to the traffic. This reasoning is based upon the idea that the entire street width is for the public and is not to be taken up by areas, stoops, railings, or obstructions of any kind.

On retail business streets different conditions govern, as both the walks and pavement are used by many transient persons for a short time only, and they are constantly coming and going; but as the vehicles deposit their passengers on the sidewalk it should, relatively in proportion to the roadway, be wider on a retail than on a wholesale street. Fifth Avenue in New York is the greatest retail street in this country. It is one hundred feet wide, and until recently has had a forty-foot roadway, with sidewalk spaces thirty feet wide. Areas and stoops, however, were permitted to a width of fifteen feet, thus reducing the actual

width available to the public to seventy feet. In 1909, between Twenty-fifth and Forty-eighth Streets, the curbs were set back seven and one-half feet on both sides, and all encroachments removed to a distance of at least two and one-half feet from the building line, causing to be taken down stoops that had been in use for more than fifty years. The entire operation gave a roadway fifty-five feet wide, with an available sidewalk width of not less than twenty feet. This new roadway width permits three lines of travel on each side of the street without interference, and the sidewalk width is ample for present needs. The result here has been so satisfactory to everyone that the same treatment will be continued as far north as Fifty-eighth Street, and also applied to many other of the wider streets and avenues where the traffic is congested.

This is, of course, an exceptional case and is given as an instance of what was considered the proper relation of sidewalks and roadway some years ago. Generally speaking, it would seem that the roadway should be proportionately less than as given above, for Fifth Avenue is a thoroughfare and used by many who do not have business on the street. If an arbitrary rule were to be adopted, one making the carriage way one-half the width of the entire street would probably be satisfactory.

On residential streets the questions that have been discussed are determined more by sentimental than utilitarian principles. So much depends upon whether the street is or is not solidly built up and whether the buildings set back of or on the property line. The residential streets of Manhattan are sixty feet wide, with roadways of thirty feet. This leaves sidewalk spaces of fifteen feet, but as stoops are allowed to project five feet, the width available to the public is only fifty feet. The question immediately arises — If this width is sufficient, why should the city condemn and pay for a width of sixty feet for public use? A width of thirty feet is sufficient to allow the ordinary vehicle to turn around easily, and as a general proposition is sufficient for a resi-

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dential street. On short and unimportant streets even this can be reduced without disadvantage.

When it comes to the selection of the material to be placed upon the street, much study is required. When it is known that city pavements have been in use for nearly six hundred years, and in this country for about three hundred, it would seem that the selection should be a simple matter. But it must also be understood that not one mile of the pavements considered standard to-day was in use, or hardly thought of, thirty-five years ago.

The first pavement laid in this country was in the old town of Pemaquid, Me. A few years ago a farmer at work in his field felt his plow strike some obstruction. He investigated the matter, and discovered a street paved with cobble-stones and curbed in the modern way. As nearly as can be ascertained, this pavement was laid about 1625, when Pemaquid was a flourishing settlement.

Boston laid its first pavements in 1650, and New York in 1656, both cities using cobble-stone, they being the most available material at that time. And this same material remained practically standard until 1850, when Belgian blocks were introduced, the present oblong granite not being used until some twenty years later. Brick and asphalt were first laid in the '70's, and the present treated wood-block some twelve or fifteen years ago. In the meantime, however, experiments were made with a great many kinds of materials, more or less successfully, till at the present time the standard paving materials are stone, brick, creosoted wood, sheet and block asphalt, and the so-called bitulithic.

In determining which one of these materials shall be used on any one particular street great care is necessary. The official should first know all the properties of the different pavements as well as the requirements of the street itself, as what would be very satisfactory under some conditions should not be tolerated under others.

The principal requirements of a perfect pavement are durability, smoothness, and noiselessness. There are a

number of other requirements, but time will not permit their discussion to-day. Now, while the pavements above mentioned contain all of these properties, no single one of them does, and it is in the selection of the one best adapted to any street under consideration that will tax the skill of the official to the utmost.

Granite is undoubtedly the most durable material and makes a pavement that requires few repairs. It is, however, noisy, and, as generally laid, rough, and consequently not desirable for residence streets. It gives a good foothold for horses and will probably be most satisfactory for heavy traffic streets. The smoother pavements are, however, more slippery, so that granite must sometimes be used on account of steep grades on streets where naturally it would not be selected. The granite pavements of this country are much more objectionable than they might be on account of the roughness of the blocks themselves. To make a smooth block costs money, and for that reason blocks have been used that never should have been laid in any pavement. The remedy, then, is simple: make the blocks better, both as to shape and surface, so that they can not only be laid closer, but present a much smoother surface when laid. The general practice with granite pavement has been to permit a three-quarter-inch joint between the blocks, filling the same with gravel, the interstices of which are also filled with coal tar pitch. By making the blocks of better shape and laying them stone to stone, the joint can be kept so small that it will be practical to fill it entirely with pitch. This filler of pitch will materially reduce the noise of traffic, and, together with the smooth surface, give as quiet a pavement as it is possible to obtain with a hard, durable Some engineers prefer to fill the joints with material. cement grout. This practice unquestionably gives good results when properly carried out, but it means keeping the street closed to traffic until the grout is completely set. This is difficult to do in a street that is in constant use. Such a pavement as this is very hard to open and replace for sub-

surface work, and while, as a general proposition, this might be a good thing in order to reduce openings to a minimum, it is often absolutely necessary to open a pavement for repairs and new services, so that easiness of repair is an important factor.

During the last year or two engineers have recognized the necessity for better blocks, and under present specifications a much better pavement has been obtained. It will require some time, however, to get the granite workers and pavers educated up to the required standard.

Brick can also be classed as a durable material and has been used with great success and in large quantities in the middle west. It is smoother than granite, and when good bricks are used makes a good pavement. Good brick cannot be made without good raw material, and many poor brick pavements have been laid because the bricks were made of poor clay and their character was not understood before being laid in the pavement. Notwithstanding the time brick has been used on streets, it was not until within the last year that a standard testing machine had been adopted. If this proves successful in separating the good bricks from the bad before using, poor brick pavements will be rarely found in the future. On account, however, of their weight and consequent heavy transportation charges, it is doubtful if they can successfully compete with other paving materials a great distance from their place of manufacture.

Since creosoted wood-blocks were first used in Indianapolis, in the late '90's, they have come into use more generally than any other new material except asphalt. The principal reason is that a wood pavement is as nearly noiseless as it is probably possible to make any pavement. Its principal and almost its only objection is its slipperiness, and that occurs only when the pavement is wet or frosty. Just what its durability is cannot now be told. The first creo-resinate wood pavement was laid on Tremont Street, Boston, in 1900. It is now in good condition and has cost almost nothing for repairs. Lower

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Broadway, in New York, has been paved with wood-block for five years, and where it has not been disturbed shows practically no change from its original condition. Adjoining this wood, from Vesey Street to Canal Street, the previous granite pavement was renewed in twelve years. The durability of creosoted yellow pine blocks has surprised municipal engineers, and these blocks have now been accepted as a durable paving material.

Asphalt was the first material used for a smooth pavement, and its success has been phenomenal. It can be laid with an absolutely true and even surface, is easily repaired, and presents a pleasing appearance to the eye. It is more slippery than brick or stone, but less so than wood. It will, however, not stand heavy traffic, and it has received many set backs on account of its partial failure upon streets where it never should have been used. For residence or light business streets it is almost an ideal material, within grade limitations. Where the grade exceeds four and one-half per cent or five per cent, asphalt blocks can be used. These blocks are made of the same materials as the sheet asphalt, except the sand of the former has been replaced with crushed stone ranging in size from onequarter of an inch downward. On account of the coarser mineral matter and the joints between the blocks, this form of asphalt pavement is less slippery than the sheet.

Bitulithic pavement is a bituminous product designed originally as an improved macadam, but gradually elaborated until it has become accepted as a standard pavement. It differs from sheet asphalt, in that while the former is made up of sand, its particles being bound together by asphalt, the bitulithic is made up of broken stone in sizes from one and one-half inches downward, and so graduated as to present as few voids as possible, the pieces being held together with coal tar or in some cases with asphalt. On account of the size of the stones it is much less slippery than asphalt and has been successfully used on steep grades. It is a patented pavement and consequently has not been

laid in as large quantities as it otherwise would, although it has been adopted very generally.

Knowing the properties of the different pavements to be used, the wants and needs of the different streets must next be considered. And the words "needs" and "wants" are used advisedly. The pavements are for both local and through travel, and these interests often conflict. wants of people occupying the premises on the street also often differ altogether from those using them. For instance, the tenants of an office building wish a noiseless pavement, and care little how often it wears out or how much work is necessary to keep it in repair. This call, however, must be heeded, as it is recognized at the present time that everything possible must be done to reduce the wear and tear upon human nerves in the modern city. Then, too, there are the needs of hospitals, churches, and schools, which must be located in many instances upon busy streets, and whose work is seriously interfered with by noise.

In determining the needs of the different streets a complete knowledge of the amount and character of the traffic should be had, and it is probable that no city in the United States can furnish that information about its busy streets. The value of such information has been fully recognized in the borough of Manhattan, New York City, during the past year, where the necessity and amount of widening the roadways of certain streets have been determined by the result of the census of street traffic, both pedestrian and vehicular.

Another factor should be considered, — the necessity of establishing through lines of vehicular traffic of all kinds. In all cities there are well-defined lines of traffic, caused by certain conditions, such as topography of the city, location of docks, railroad stations, bridges, etc. In these times, too, attention must be given to the needs of the automobilists and provision made for them. Routes should be laid out for heavy traffic, where such are necessary, and

independent lines for automobiles and light traffic, and pavements laid suitable therefor.

In the foregoing discussion no mention has been made of the cost of these different types of pavements, for as an abstract proposition that is not pertinent; but when it comes to a practical application it must be considered, as few cities have money enough for their pavement needs and must make the little they have go as far as possible.

Summing up, then, the principles herein laid down and applying them to general propositions, the author would say: That for heavy traffic business streets a stone pavement will be most satisfactory, except where good brick is available and stone is not. If, however, for any reason noise is an objection and must be gotten rid of as much as possible, wood-blocks should be used up to grades of two per cent, where recourse must again be had to stone, but laid as heretofore outlined, so as to produce as little noise as possible.

On retail, light traffic, or residential streets, wood, the bituminous pavements, or brick will be satisfactory, according to grade requirements, the former two probably more so than the latter, as they are less noisy. In the East, wood is probably the most expensive material, with brick next, and sheet asphalt the cheapest; but prices vary with seasons, localities, and local conditions.

The author believes that for these latter streets, cost not being considered, wood will give the best general satisfaction, with sheet asphalt second.

SUBSURFACE STRUCTURES

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In considering the subject of street widths and their subdivisions, the necessity for providing ample space to accommodate the substructures needed to meet the requirements of modern city life cannot be overlooked. Underground circulation is as necessary to modern municipal life as surface circulation and the problems involved in its installation and maintenance have become exceedingly complex and difficult as the demand for such service Surface traffic may be shifted entirely off has increased. of a street temporarily, in cases of emergency, without inflicting any great hardship, but the underground service, once installed, becomes permanent, and any derangement or interference with it ofttimes seriously affects large areas. The great tendency in all our large cities, especially in America, to concentrate business activities at some central location has demonstrated the total inadequacy of the street surface to supply space to meet the problems of passenger transportation. It is, therefore, essential to plan in all our large cities to carry the thousands of people, who daily congregate for business or pleasure, over railway lines constructed either above or below the street surface. The space required for the foundations to support elevated roads, or the area of the street cross-section necessary for subways, in addition to the sewers, water and gas pipes, telegraph and telephone conduits, pneumatic tubes, pipes for the conveyance of steam, hot water or

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refrigerating compounds, vaults and tunnels, cannot be found except in streets of considerable width.

The substructure congestion occurs not only in the business districts but also along the lines of all main arteries of travel leading from the heart of the city to local centers of manufacturing or business interests. In the central and older portions of the city of Philadelphia many of the streets in the regular system are but fifty feet wide, with a few diagonal avenues sixty feet wide. The widths of these streets are insufficient not only for surface travel, but also for the substructures which must be placed in them. This congestion is particularly marked at the street intersections. In the replanning of these portions of the city it is found necessary not only to provide for widening existing highways, but also to lay out and open additional avenues and to enlarge intersections to meet the demands for subsurface structures as well as for surface uses. This increase in street width has been gradually accomplished on Chestnut and Walnut Streets, in the business section, by placing the streets upon the official plan of ten feet greater width and requiring all new buildings to recede to the new line, paying to the owner at the time of reconstruction any damages that may be sustained. By this method the cost is not burdensome to the city. The widths of a number of important diagonal avenues leading through local business centers are being increased in like manner.

In the growth of a modern city the number and character of underground structures is constantly increasing and changing, and it is probable that the future will see the present ones supplemented by others for purposes now scarcely thought of. This ever increasing demand for space under the street surface makes it therefore necessary that the available cross-section be utilized to the best possible advantage. This in a measure can be accomplished as it is in the city of Philadelphia, by grouping the structures as closely together as possible; but a much better method would be by the construction of one or more lines

of subservice galleries, of sufficient size to accommodate all future structures, preferably one on each side of the street, close to the curb lines, thus doing away with the usual form of conduit construction and avoiding the necessity of continually opening the street surface and interfering with the proper maintenance of the paved areas. Such galleries might, when old streets are widened or new avenues opened in the built-up portion of the city, be advantageously constructed and maintained by the municipality, and at least a portion of the cost covered by rental charges to public service companies, which should be required by law to place their structures in them and to pay a proper rental therefor.

The prevailing custom in many cities of allowing vaults to be constructed under the sidewalks of the street and extending to the surface, results in the occupation of a large percentage of the available cross-section of the street and interferes seriously with the laying of other underground structures. The disadvantage of allowing construction of this kind is now being realized in many of our cities, and such constructions are wholly prohibited on main thoroughfares. Since 1902 it has been unlawful in Philadelphia to construct or reconstruct any vault under the sidewalks of the streets, unless the outside top of the vault shall be at least four feet below the established grade of the sidewalk over the same, the purpose being to reserve this four feet of space for conduit and tube construction. All persons receiving permits to construct vaults are required to enter into agreement that the city shall in no case be liable for any claim for damages for the re-occupation and use of the whole street, or any part thereof to the house line, for public purposes.

In the city of Philadelphia the location of underground structures of every character is determined by a Board of Highway Supervisors composed of the chief officers of the various bureaus of the city government having charge of the municipal underground structures. This board is

vested with the full power, not only to grant original locations to companies authorized by law to lay pipes and conduits, but also to direct their removal and re-location whenever the public good demands it. For the purpose of enabling the board to act intelligently upon all applications, a recording and drafting department is maintained where all underground structures are plotted, and their sizes, depths, and distances from the curb or building lines shown upon plans of uniform size drawn to a scale of twenty feet to the inch. Each structure is colored with a conventional tint, so that it may be readily followed on the plan. All applicants for permits to locate pipes, conduits, or other subsurface structures are required to obtain plans from the department records, showing, as far as practicable, all existing structures in the street, also the location which they desire to occupy. A charge per linear foot is made by the city for such plans and information, and the cash receipts are considerably more than necessary to maintain the force in the drafting-room and the field inspectors, who are sent to see that the locations granted are followed, and to make systematically measurements of and report all structures of every character met with in the excavation. By this means the plans are constantly being checked and where necessary corrected. In all cases where electrical conduits are laid by public service corporations, the law requires that one conduit shall be provided and laid at the expense of the company for the use of the city.

A standard plan showing subsurface structures in Market Street, between Eleventh and Twelfth Streets, is among the plans of the city of Philadelphia exhibit.

DISCUSSION

B. Antrim Haldeman, Assistant Engineer, Bureau of Survey, Philadelphia, Pa.:

The planning of street systems is perhaps the most serious and important problem which comes before this Conference. I say this because it is the first problem of town

planning and involves the laying of the very foundation of the city. We all know what happens to the structure when its foundation fails. This Conference has come into existence, and the great exhibition now being held in this building has been brought about chiefly because foundations have failed somewhere and we are seeking the best methods for repairing them, and laying deeper, firmer, and more permanent ones for the cities of the future.

Mr. Nolen's suggestion that "permanent progress in city planning will result mainly from a patient, openminded, and scientific study and solution of such problems as are represented by the subject of this paper" calls for our most careful and earnest consideration. It is generally agreed that the healthy, progressive development of a city depends primarily upon the opportunities offered by the street system for unlimited and untrammeled circulation, and the experience of all large industrial cities has been that the demand for better and greater facilities for such circulation is increasing more rapidly than means for supplying it can be found; therefore, the wise determination of street widths is one of the most important of the practical and economic problems of city planning, and should be subjected to a much closer study than has heretofore been the practice of town planners.

The failure of streets in the busiest sections of large industrial cities to provide adequate facilities for general circulation, and the wastefulness of unused street areas in other sections of the same communities, are too well known to need any lengthy comment. Although much of the annoyance, waste of time and energy, and pecuniary loss due to congestion of traffic and lack of rapid transit on the one hand, and the uselessness, extravagance and unloveliness of barren areas on the other, may be traced to unwise street planning, it is doubtful whether any amount of human skill, wisdom, and foresight can entirely eliminate the danger of the recurrence of these unfortunate conditions. The future requirement of a street is a dark mystery which

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only time will fully reveal; replanning and rebuilding will probably always remain municipal liabilities; but although our prevision may not be sufficiently unerring to enable us to fully anticipate the future, the knowledge gained by unfortunate experience should make us more cautious and painstaking in our study of the problem, and should enable us to plan streets which will not be entirely wasteful and ugly during the period when their ultimate destiny is uncertain, and yet will have a reasonable prospect of successfully meeting every demand of the years to come.

That "There is nothing new under the sun" is as true of street planning as of other things. The street planner has the physical example of every width and form of development to choose from, from the narrow unloveliness of the back alley to the splendid breadth of the Avenue du Bois de Boulogne; whether standards be established or not. his judgment, wisdom, and skill will be the true measure of his success in the final analysis of the problem, and it is much more necessary that complete power over the establishment and maintenance of streets be vested in able and responsible hands than that their widths should be either standardized or destandardized.

There seems to be an abundance of reasonable argument both for and against the standardization of street widths, and there is no doubt that our street planning methods can and should be improved, but until there shall be a larger consideration for the general public welfare in methods of land development, and a strong central authority which can effectively control such development, we cannot hope to be very successful in reducing street planning to an economic or scientific basis. The most successful experiments which have been carried out under modern economic theories of town planning have been where the proprietors of large tracts of land, or municipal governments such as exist in some of the cities of Europe, have been able to absolutely control the character of the improvement and the number and kind of buildings to be erected; such control does not

obtain in American cities and cannot obtain without the enactment of restraining laws, which would be violently opposed by property owners as restricting their right to do as they please with their property; we will, of course, have such laws in time, but the time is not yet, and until we have them our safest course of procedure is our present practice, exercised with a greater degree of judgment, discretion, and firmness.

If there has been one influence more potent than any other in the establishment of street widths in American cities it has been the influence of standards, unconscious and unintentional, perhaps, and the result of long established custom, but yet standards. Most of our cities have a comparatively limited variety of street widths, or standards; eastern cities, as a rule, have a greater variety than western ones, and where their use has been found to be economical and generally satisfactory in practice standardization is a success, elsewhere it is a failure; that it is at least a partial failure in most cases seems evident in the fact that this Conference is treating it as a serious problem, but its failure may be due to the unwise distribution of the various widths.

If we eliminate streets less than forty feet in width, which are no longer permissible here, Philadelphia has been a standardized city since its foundation. William Penn's standard was fifty feet, but he laid out one street each of the widths of sixty-six, one hundred, and one hundred and thirteen feet; for a longer time than the oldest resident can remember new streets have been forty, fifty, sixty, seventy, eighty, one hundred, and one hundred and twenty feet in width; the two latter widths being exceptional and applied to few streets, while fifty and sixty feet have been the widths most frequently used. These widths have not been established by any law but have resulted from long established custom; they are standards, and if applied with proper judgment and discretion should give as good results as any scheme of standardization.

The suggestion has been made that streets might be classified and standardized as follows;

Main thoroughfares						90 to	150	feet
Secondary thoroughfares			4	٠	w	60 to	90	66
Local streets						40 to	60	66

but this offers such a wide latitude of choice that it seems to lean very far toward destandardization, since any width from forty to one hundred and fifty feet is allowable. The so-called German standards are subject to the same objection, while those of Washington and those recommended by the London Traffic Commission, although they establish definite widths, ignore many widths which seem both desirable and economical.

It is extremely doubtful whether any sharply discriminating scheme of classification or standardization would be permanently beneficial or economical, even if firmly established by law or practice. A street system designed to fulfill efficiently all its functions during a long period of usefulness must be planned far in advance of improvements, and, in the absence of any power to control such improvements, the planner cannot pre-determine their class or character in any given locality; the development of a new town or a new suburb always begins with the erection of dwellings, whether the streets be wide or narrow and whether planned to be industrial or residential; after the community has attained a substantial growth gradual changes come through natural causes; the residential street may become a business street: the first-class business street may lose its importance as trade drifts to a more popular locality: this has been the experience of Philadelphia, and probably of every large city. The width of the street has little influence in determining the character of the improvement on abutting property, or even on the flow of traffic. Although Market Street is one hundred feet wide, Chestnut Street, fifty feet wide and one square south, was for many years a much more important business and traffic street, and only its congestion has forced trade and traffic from it into Market The section that held the homes of the best families a hundred years ago is now occupied largely by the for-

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eign element and part of it has become slums; the best families have moved westward, beyond Broad Street, and they are now being driven out of that section by the resistless tide of trade. Although Washington Street, Boston, is very narrow its great importance as a business and traffic street is undeniable.

Mr. Robinson strikes the key-note of the objection to standardization when he says that "it results in misfits and means extravagance and mal-adjustment"; but until we have a thoroughly efficient system of control over the subdivision and use of land we must continue to take chances of these misfits and extravagances or we will gravitate to an even worse condition, as intimated by Mr. Nolen when he says that "if no standards are fixed there is a danger of private interests, through pressure and influence, succeeding in securing action which is in conflict with public requirement." This pressure of private interests, with sufficient influence to obtain special privileges, would become a serious menace wherever any abrupt change from long established practice was attempted. In such a city as Philadelphia, where the only limit to the number of houses which may be placed upon an acre is that each shall have at least fourteen feet frontage and one hundred and fortyfour square feet of open space, or yard area, attached, the abandonment of standards would have none but disastrous results. Only a few years ago a real estate operator asked that a certain unopened street be reduced from the planned width of eighty feet to sixty feet, arguing that it was a surburban, residential street so far from the center of the city that the greater width would never be required. The request was very properly refused, but it is probable that only the fact that it was upon the confirmed city plan of a standard width common in that section saved it from being narrowed; to-day it is one of the finest, most important, and most heavily traveled streets in that section of the city. This is not an isolated case and results have not always been so happy; streets which have been upon the

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city plan, but not open, have frequently been narrowed or otherwise changed under the pressure of real estate influences, to the very great disadvantage of adjacent property in the subsequent development.

Taking the position that the adoption of arbitrarily fixed standards of width offers little, if any, economy over present general practice, and that destandardization is not safe where the planning is subject to selfish political or private influence, there yet remains two methods, or, rather, a combination of two methods, which seems to be both practical and economical in its initial application and ultimate results; one is the standardization of units for determining the widths of streets and the other is the "elastic" street.

The standardization of the units upon which the widths of streets may be based appears to be an entirely logical proposition; if definitely established it could not fail to result in large economy; its ultimate efficiency, used in connection with the "elastic" street, would, of course, involve wisdom, skill, and foresight in the planner, and to obtain permanently beneficial results its application would eliminate some of the moments of "inertia" and require much of the "thinking and surveying" so darkly hinted at by Mr. Robinson. The units of measurement suggested by Mr. Nolen are probably ample to satisfy present conditions, but restrictive legislation might be necessary to prevent a future increase in the width of vehicles; as there is no likelihood of any early legislation of that kind it might be wise to adopt nine feet rather than eight for that unit. two foot unit for determining the width of sidewalks might not be sufficient for fat men, baby coaches, push carts, or wheelbarrows, but they may safely be classed as allowable exceptions.

If the "street beautiful" is to be a factor in the problem a unit width for planting spaces must be provided. Grass plats in streets seem to thrive only under German municipal regulations or in cities where the property owners have a superabundance of civic pride; even in Paris, world-famed

for its beauty, the streets contain no grass plats. Much of the beauty of the old-world cities is due to the scientific planting and care of street trees, and if our streets are to achieve the full measure of attractiveness we wish for them we must look hopefully forward to a time when trees and plants will be properly cared for under municipal authority; to this end there should be a planting-space unit of four feet for narrow streets and eight feet for wide ones. These units would fit naturally into the unit schemes for sidewalk or cartway in the event of the abandonment of the planting.

The "elastic" street offers an opportunity for obtaining all the advantages of wide streets with little of their extravagance or wastefulness during the years they are growing to their greatest usefulness. It contemplates a gradual development through various forms from the time it is opened, perhaps as a minor residential street, until the time it may become a great business or traffic highway. It involves in its origin one of two conditions - opening to the full ultimate width intended for it, or the restriction of building lines to such a distance from the center line as will keep the maximum width presumed to be needed for future use clear of permanent obstructions. The opening to full width may be the most economical in the long run and would be feasible where it might be difficult to obtain a law requiring the observance of restrictions. In either case, the first form of improvement might be a roadway only wide enough for two vehicles to pass, with narrow footwalks and with grass plats and rows of trees occupying the remaining width, the trees being planted in such locations that they would not be disturbed during subsequent changes. Where restrictions can be effectively applied the original opening need not be more than is necessary for two vehicles to pass, with allowance for pedestrians on either side, say, sixteen feet for roadway and six feet for each sidewalk; these widths would be governed by the probable use and requirement of the street in the near future.

The adoption of a method whereby fixed units may be [226]

used for determining the widths of elastic subdivisions is suggested as a compromise between the advocates and opponents of standardization; this would provide for a minimum width of the subdivisions as the first form of development for a minor residential street, with the possibility of a future widening to the maximum, if necessary, without great cost, and with the certainty of having an attractive street if it never gets beyond the residential state. This method could be applied to the development of any street, no matter what its width or how established; its adoption would lead naturally and directly, in time, to a logical standardization involving comparatively few widths, possibly not more than four, and those would approximate certain standards now in use in almost every city; its practical efficiency and economy, like that of any other method, would depend upon the wisdom and skill with which it is applied; it involves the accuracy of human judgment, which may be prone to err, but any scheme of planning is subject to the same limitations, for it does not seem possible to lay down any hard and fast rule for obtaining ideal results in the planning of city streets.

The general discussion was participated in by Mr. C. E. Rust, City Engineer of Toronto, Mr. E. Prescott Folwell, Editor Municipal Journal and Engineer, New York, Mr. F. L. Olmsted, Brookline, Mass., Mr. G. A. Parker, Superintendent of Parks, Hartford, Conn., Mr. John P. Fox, Traffic Expert, Pittsburg, Pa., Mr. H. C. Allen, City Engineer, Syracuse, N. Y., Mr. H. J. March, Assistant City Engineer, Buffalo, N. Y., Mr. Roscoe N. Clark, City Engineer, Hartford, Conn., and Mr. William Solotaroff, Forester, Shade Tree Commission, Orange, N. J., all of whom spoke on the most desirable location for the planting strip on residential streets. The feeling was general that the planting space should not be divided. The practice in southern cities of planting the portion next the property line and reserving the space next the curb for the footwalk was commented

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on favorably from the viewpoint of the owners who would be more likely to care for trees and other planting when they seemed to be a continuation of their own property. Furthermore tree planting between the curb and the walk would be apt to interfere with the street lighting system, and would have the effect of narrowing the street width.

Against the advantages of this location for the planting strip, considerations both asthetic and practical favor tree planting near the curb. Thus both walk and street are shaded, and only then can the elm-arched street be obtained. By placing street lamps nearer the curb and properly trimming the trees there is no interference with the lighting system. The trees which would obstruct the houses if placed next the property line become a screen from the dust of the street and a protection to children against traffic if placed near the curb.

All these considerations should, however, be thought of as dependent on the width and use of the street. No general principle can be given out for universal guidance. Where houses are built very near the property line, planting strips should certainly be between the curb and the walk. Where houses are generally set back and both street and walk are narrow, the planting strip might better be located between the curb and property line.

THE LEGAL ASPECTS OF CITY PLANNING. INTRODUCTORY REMARKS

HON. WALTER L. FISHER
Secretary of the Interior

I BELIEVE the only function that I have to perform this afternoon is to act as a presiding officer in a discussion of the most recondite and probably most difficult feature of the entire subject of city planning. I suppose that in every country in the world that proceeds in an orderly way to transact its business, the question of the existing statutory law is one of the most important, if not the most important, of all the matters to which attention has been given; but in the United States, due to the establishment of our written constitutions, both state and federal, the question has greater importance than in any other country, certainly than in any other country which is not similarly organized; and in few other countries are the restrictions so numerous, and in few other countries do they create so many differences in local treatment as they do in our own.

It was my fortune to be called on to prepare the chapter upon the legal aspects of the city plan which was drawn and presented to the city of Chicago by the commercial body of that city and which has been published in the book with which many of you are familiar; and I believe I am supposed to be a member of a committee (to which I regret that it has not been possible for me to give greater attention), of which Mr. Crawford is the chairman, which has been charged with the duty of presenting some of these legal aspects to you.

There are many things that we would like to do with regard to city planning that we are unable to do because of the fact that at this particular time there is no statutory authority, or because there is some statutory or constitutional inhibition; and therefore it becomes important, after we have discussed (as you have here) the general subject, or those matters that you would like to bring about in improving the conditions in our urban communities, for us to turn our attention to the legal status, with a view of determining what we can do, and, in so far as there are obstacles or lack of opportunity, to discuss the methods, the ways and means of removing those obstacles. Mr. Crawford has been charged with the duty of preparing a paper, I believe, to serve as the basis of the discussion; and I will not take your time any further, but will proceed at once to the order of business by introducing Mr. Crawford.

CERTAIN PRINCIPLES OF A UNIFORM CITY PLANNING CODE

Andrew Wright Crawford, Esq. Assistant City Solicitor. Philadelphia, Pa.

THE executive committee of the conference referred to the Committee on Legal and Administrative Methods the preparation of a uniform code of city planning. The uniformity of such a code was suggested by certain acts which have been passed by the different legislatures of the states, such as the one on Negotiable Instruments, which avoids the confusion that used to result from different interpretations of the common law in the different states. The precedent, abroad, of the English Town Planning Act, of which you have often heard from distinguished visitors from the other side, is another precedent that it was thought might be followed. Other countries, such as Sweden, to which my attention has been called, also offer examples. But the English Town Planning Act in fact helps us very little in the matter. Of course, there are certain things that Englishmen are trying to do, and that we would like to try to do, that perhaps are set forth sufficiently in the English Town Planning Act; but they have no federal constitution, no constitution of their separate counties, as we have a federal constitution and constitutions of the separate states, and therefore the legal aspects of the subject are, in fact, not helped very much by consideration of that act.

Any code that is prepared on the subject can be but tentatively drawn; first, because of our knowledge of the subject, which is, indeed, only a knowledge of the surface.

I think we are all agreed that we have not delved very far under the surface of this broad field. As your researches go further and further under the surface, the principles that the statutory law should enact will become clearer and clearer; but as our researches are but tentative, so any code on city planning can be but tentatively drawn. The subject is rendered more complicated by the different laws which have already been passed. Each state is the absolute judge as to what functions shall be performed by its municipalities; and, as there are forty-six different legislatures, with varying knowledge of the needs of the communities that they create, and of the relative importance of those needs, it is but natural to find that the different cities of the Union differ in their powers, in important respects as well as in minor respects, from each other.

Before the preparation of any such code, it was necessary to determine certain preliminary questions: Should the committee recommend an entirely new scheme, something that would be striking, that would be sensational, as though in law we should recommend the counterpart of the physical municipal building two thousand feet high; or, should we get down to something more reasonable and more capable

of being brought into existence?

This conference is a body of practical men brought together to get practical results, and it has therefore seemed to your committee wise not to interfere with any existing bodies, but rather to superimpose upon existing bodies a new body, such as the Connecticut Act has superimposed upon the existing bodies of Hartford. The Hartford Town Planning Act affords a precedent for the composition of a body to bring into actuality the principles of city planning. Should we adopt a different course and attempt to wipe out existing bodies, we would at once be met by the opposition, personal and political, of the individuals who already hold positions under existing statutes. We therefore present herewith tentatively, and tentatively only, a slight modification of the Hartford Act.

I may say, in connection with all the acts that are presented, that they are not the final thought of the committee and that the fault is largely mine; but the preparation for the conference has been so engrossing, that it has taken all of the time that I could possibly have given to this matter; and the exact wording of the acts which are herewith presented has not been as carefully considered as we should like. Indeed, the preparation of the acts I was unable to undertake; and through the great courtesy of Mr. Frank P. Williams, formerly of Hartford, Conn., and now of New York, the drafts that are here, are presented. They are not, in any sense, finalities; they are presented simply for analysis, for discussion.

In entering a new field we must be prepared to face opposition; we are, in fact, pioneers in this domain. Anything that we present will very likely have to stand the ordeal of battle in the courts. Because of that fact it has seemed unwise to present at this session, or indeed at the next session, or those immediately to follow it, a code, a uniform code, of city planning. Rather, we thought it wise to present separate acts, so that the legality of separate acts may be tested. For instance, should we attempt to combine an excess condemnation act with a town planning act in the sense of the planning of streets, it may well be that one or the other of such acts would be held to be unconstitutional. We do not think that they will, but they might. If one act is held unconstitutional and it is combined in a code with another act, it may be that the entire code would be held unconstitutional. The question then would be: Can the part unconstitutional be separated from the part that is constitutional, or must the whole fall? In order to avoid that question, we have presented separate acts.

The subject of city planning in practice has to do with two main propositions: One is the planning for undeveloped areas, the other is re-planning in developed areas. Re-planning in developed areas must depend, to a very great extent, upon the ability of American communities to act as

foreign cities act and to condemn more land than is necessary, in order to resell the unnecessary portions and so pay, in whole or in part, for the entire improvement. You know that has been done in the case of the King's Way, where it has not yet been shown that the entire expense will be met by the renting of the sites. Indeed, it cannot be shown whether or not the result will be one of loss or gain for one hundred years; because it is not until that time that the total effect of the legislation which was enacted by Parliament in order to create the street can be known. The principles of excess condemnation have already been discussed by this conference; it was presented at the first meeting, in Washington; it was presented last year in Rochester. The subject is so important that I am going to suggest one or two thoughts more with regard to it.

If you take the Fairmount Park Parkway, the model of which you have seen in the mayor's reception room, you will see that the whole improvement that the city proposes to make is not a street one hundred and forty or two hundred and fifty feet wide, but a certain area of open space surrounded by buildings. The whole improvement, therefore, is not a diagonal street extending from the City Hall to Fairmount Park, but a street bounded by certain buildings; and it seems to me that it is necessary to persuade our judges that that is the total improvement desired, rather than the creation of one individual street, in order to get them to uphold the constitutionality of the acts that have been passed.

Should the Legislature pass an act that provides for excess condemnation, in order merely to pay the cost of the improvement, I have no doubt that any such act would be unconstitutional, or at least be held unconstitutional, at the present time. Acts have been passed that provide, however, that in order to create restrictions upon the land fronting upon the proposed park or parkway, the municipality may condemn more land than it wants to, in order to resell, not absolutely, but with the restrictions that are

required. Such power, it seems to me, is amply upheld by Mr. Fisher's presentation of the subject in the Chicago report; and I believe that if you will consult the authorities in addition to those that he has brought together there,—the additional authorities which you will find in my brief upon the subject published by the Senate Committee on the District of Columbia,—you will see that there is ample authority for this very conservative attempt at excess condemnation.

The other main division of street planning is the planning of streets in undeveloped areas. Here it is a pleasure to me, as a loyal son of Pennsylvania, to believe that we have upon our statute books an example much more practical, much broader, and perhaps more just than the English Town Planning Act. I believe that a better model for any American community to follow is found in the Pennsylvania statute than in the English Town Planning Act. That act only applies to areas which are about to be developed; it does not apply, at all, I am informed, to such an improvement as the King's Way in London. It would, therefore, not apply at all to such an improvement as the Fairmount Parkway in Philadelphia, the Group Plan in Cleveland, and so on. It does apply, of course, in outlying areas.

Now, the Pennsylvania Act is this: We have authority, under the Act of 1871, and, as interpreted by the courts before that act was passed, under the common law, within the limits of Philadelphia, or of any city in Pennsylvania, to plot streets upon an official city plan. The official city plan becomes a record, a public record, just as the record of any court is a public record. It is adopted after certain procedure. That official city plan, when adopted, is irrevocable until some action of the City Councils authorizes the Board of Surveyors to change the location of the streets and their grade. It provides (and this is the especially important point) that if anyone builds within the lines of a plotted street, he shall not be entitled to any damages for the removal of his building when the street is physically or legally opened. By legally opened we mean simply the

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acquisition of the right of way. The result of that power is that it enables the Board of Surveyors to plan the streets as their wisdom dictates, unless directly ordered by councils; and councils have, in nearly every case, left it to the Board of Surveyors to determine how the streets shall be laid out.

Now, that power does not depend upon the initiative of some individual in the area through which the streets are to run, as the power in the English Town Planning Act depends; it depends upon the initiative of no individual; but it does depend entirely upon what the Board of Surveyors proposes. Therefore, the only thing that is needed in any Pennsylvania city is that the Board of Surveyors shall understand what ought to be done and then go ahead and do it.

No power, no legislation, is required, in my judgment, in this state, so far as the undeveloped areas go. Education is needed. The gridiron system is certainly not to be extended further; and the desirable attitude of mind, I think, was admirably suggested by Mr. Adams to a number of us when he was talking about the subject. I believe that in Philadelphia some of the members of the Board of Surveyors (and I should be very glad, indeed, to be contradicted about this) approach the opening of any of the undeveloped areas of Philadelphia with the intention of placing the gridiron plan upon them, if it can be made to fit. In other words, they approach it with the gridiron plan at the back of their heads. They did so, certainly, until eleven or twelve years ago. Now they approach it with the idea that diagonal streets should be provided, as well.

Mr. Adams says that in England (and I think we could very well copy this everywhere in this country where this power can be given) they approach it with an absolutely open mind: What is the best plan for this particular location? They don't say — Can we make the gridiron system fit? Can we make the radial system fit? Can we make a system following the contours fit? But they inquire — What is the character of the land; what are the circumstances of the place; what individual system should be suggested

for this individual place? An absolutely open mind, therefore, is the thing with which I think our Board of Surveyors, our authorities, should approach the subject; but have they that open mind? Education alone is required; and I believe that if you will examine very carefully the plan that has been prepared for Philadelphia in many of its outlying localities, you will find that that attitude of mind is becoming more and more apparent in actual planning and in actual work.

When we place a street upon the city plan, we prevent the owner from building upon the area within the street. That has been held constitutional in Pennsylvania; I don't know that it has been held constitutional in any other state in the country; and it is because of that fact that my paper is chiefly directed to this question. When we locate a street through a man's property - place a street upon a city plan to run through a man's property — we do deprive him, for the time being, of the use of this property within the street for building purposes. He has it for every other purpose. Is it, or is it not, constitutional to place it there without giving him damages at that time? The New York courts at one time held that it was constitutional; they changed their opinion. Pennsylvania courts have always held that it is constitutional so to do; but how about the other states? What suggestion can we make for them?

I present herewith, on behalf of the committee, an act ¹ which is designed to remedy the situation in those states where such acts as the Pennsylvania Act are not upheld. The act briefly provides that any city of any state (of the state that passes the act) will be enabled to adopt an official city plan such as we have in Pennsylvania; place upon that plan the system of streets which it proposes to actually carry out in any given locality, — whether in an undeveloped area, or in a developed area, — and then pre-

¹ The acts presented were referred back for amendment and do not appear in this volume.

vent the owner from building upon it; or, if he chooses to go ahead and build, prevent his being entitled to any damages when the street is actually opened, legally or physically. Then (and this is different from the Pennsylvania Act) the act provides that for the deprivation of the use of his property between the date of plotting and the date of legal opening, he shall be entitled to damages when the legal opening takes place, and not before. If that precedent is followed, the owner will get everything to which he is entitled; he will get damages for the easement of way that is taken from him; and he will get, in addition, damages for the deprivation of the property right to build upon his land between the date of plotting and the date of final opening.

The act further provides that, should the Board of Surveyors change its mind and decide that it will not place the street on the location first chosen but somewhere else, then, and not until then, shall the owner be entitled to the damages for the deprivation of the use of his property between the original date of plotting and the final date, when the street is taken off the plan. I believe that such an act is entirely constitutional: I see no right which is taken from the owner without just compensation. This, then, if enacted in the different states, will enable these states to do exactly as Pennsylvania has authority to do.

Of course, those of you who are familiar with practice will see that our practice allows two sets of damages in the one proceeding. It also provides for an owner's being entitled to damages if the street location is changed. I believe that such damages, when asked for, will be found to be very small; and the fact that that right is given by law will be a great deterrent to any board of surveyors from placing upon the city plan a street before they are quite sure that that is where the street ought to go. It will make them cautious; and for that caution the small amount of damages that may be payable I think will be a small price.

The same idea of plotting in advance is adopted in Penn-

sylvania in the plotting of parks. We may plot ground for parks; and the owner is prevented from building upon the ground so plotted, as effectually as he is prevented from building upon ground plotted for the lines of a street. If, then, we adopt this same principle of plotting for all sorts of public reservations, whether for future civic centers, for buildings of various kinds; schoolhouses, firehouses, police stations, recreation centers, and so on, we have exactly the same problems to deal with. Another act that we present herewith, provides, just as in the case of street plotting, that each municipality shall be enabled to plot upon the city plan public reservations, without stating the precise use to which they are intended to be put, that the owner shall not be entitled to damages for the deprivation of the use of the property between the date of plotting and the date of final acquisition until the final acquisition takes place; and, similarly, a right to damages, should a general area be plotted for a general purpose, and thereafter the location be changed.

I have said that this act does not indicate what the area is reserved for. I doubt very much if within the purposes of such a reservation there would come the erection of tenements such as have been erected abroad. I don't think that you are ready to determine whether or not the cities of this country should go into the business of erecting tenements, model tenements, so-called, such as they have in Liverpool, such as they have erected in London; and we present no act looking to any such reservation.

We similarly present no act looking to the zoning of cities. You are perhaps nearer to knowing what you want in that respect. You have heard much of the German example in the zoning of cities, and very likely you are beginning to make up your minds as to just what you want; but until you do know what you want, it is useless for your Committee on Legal and Administrative Methods to develop an act which in another year's time may be unsatisfactory because you may then not want just what that act indi-

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cates. You may not want just what you wanted a year before.

We do present an act, however, looking to the districting of cities, so far as the height of buildings is concerned; an act that simply enables cities to follow the example of Boston. In the case of Welch *versus* Swasey one of the great advantages in city planning was scored. That case upheld the districting of Boston into two areas, in one of which the buildings should not be above a certain height. The act as we have drawn it, following the Boston precedent, provides that any city may describe an area within which no building shall be erected of greater-height than the street upon which it fronts.

There are certain problems which we have not attempted to cover. The question of housing is one of them. Mr. Veiller should certainly be upon the committee if we are to undertake any such recondite subject.

An important subject is the method of procedure in the acquisition of property by proceedings of eminent domain an exceedingly difficult and very technical question, one which Mr. Shurtleff, the secretary of the conference, is investigating, and one which we believe should be made the subject of a special session at the next meeting of the conference; though I feel very sure that if this recommendation is adopted we shall not have a large audience, because the subject is a thoroughly technical one. The pros and cons are known only to those who are actively engaged in the work of condemnation; and yet the public does know what the result is. The effect in Philadelphia is known to the public as the mandamus evil, as it is called. I think the mandamus evil is altogether misnamed. It is not an evil: it simply means that instead of appropriating property at any price that you can get the owner to agree to, you leave it, in the first place, to a jury of three or six men; and then, if either the city or the owner is dissatisfied there is an appeal to the usual jury of twelve men to determine what shall be paid, and the amount of their verdict is taken out of the general fund upon formal order made. I say

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that for the Philadelphians; I do not know exactly what the procedure in other cities is, but it is very much the same.

The New York taxpayer pays no part of the cost of opening streets sixty feet or less in width, nor of their grading, curbing, paving, nor other street improvements. In Philadelphia the taxpayers generally have to pay for the opening and grading.

In New York not a cent comes out of the taxpaver's funds. That is the ultimate result. The initial cost is assessed back upon the property; but in Philadelphia, and in many other cities of the country, we cannot get juries to assess benefits; and so the taxpayer's money pays for opening a street through a man's property, and for grading the street through that property, when, as a matter of fact, the street very greatly benefits it. You cannot get a juryman to find so: he reasons that the city has plenty of money and the property owner has n't. Now, in New York, the city does not pay for the grading and does not pay for the opening; and such a procedure should be adopted in Philadelphia. and in the communities generally, to prevent this injustice.

We do not present an act concerning the procedure of the engineering department in exercising the power of plotting or in other details; nor have we prescribed methods of causing the removal of grade crossings (in which Philadelphia has done so much), nor of securing co-operation between suburban steam railroads and the street transportation system for continuous services; nor, indeed, have we tackled the problem of vehicular transportation at all. We have attempted to consider merely the most pressing problems - the problem of re-planning in the center of cities and of plotting undeveloped areas.

DISCUSSION

PROFESSOR ERNST FREUND, University of Chicago Law School:

A code on city planning, whether consisting of one act or more, while necessarily presenting a considerable number

of details that hardly lend themselves to a discussion at a conference like this, also must involve principles of interest to laymen as well as lawyers — of interest because they determine how far the city planning policies are to be furthered by the grant of new powers of government, powers which, because they are new, must be scrutinized with reference to our great constitutional limitations. I shall not discuss a number of the matters that have been presented by Mr. Crawford with which I agree, but shall pick out some of the phases of these codes upon which differences of opinion are likely to arise.

I. I take up, first, the subject of excess condemnation. In the matter of excess condemnation, we ought to distinguish between the condemnation of remnants and the condemnation of land lying outside of the improvement altogether. Concerning the power to condemn remnants the Supreme Court of Massachusetts has given an opinion—a very reserved and cautious opinion—that it is constitutional. Such a power is not only desirable, but necessary, because compensation paid to the owner who is left with a remnant often fails to do justice, either to him or to the community.

If we have to go to the people of the state for a constitutional amendment expanding the power of eminent domain, it may be wise to couch that amendment in terms large enough to provide for the taking of land outside of improvement. At the same time I am bound to say that I think that that power ought not to be granted at present to the cities in connection with new improvement, and that for three reasons. The power of taking land outside of contemplated improvement will serve one of two purposes. It may serve the purpose of cheapening the improvement to the community. That, it seems to me, can be accomplished nearly as well by the power of assessment. Our local improvement acts generally give the power to put part, if not the whole, of the cost of the improvement upon the lots which are benefited. It is true that at the present time that amount must be fixed immediately; but I think by an amend-

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ment of our local assessment acts, it could be managed, as it is managed in Germany, — that the assessment shall be made only at the time when the additional value shall be realized.

I believe that the power of eminent domain ought not to be exercised simply to allow the city to reap the entire profit resulting from a proposed improvement. I do not say that the city ought not to be a sharer in the increased value that comes from public improvement; but it ought not to exercise the power of eminent domain for that purpose. It ought not to compel a man to part with his property in order that the city may make a profit; if the profit or part of it is to be appropriated by the city it should be done by taxing the unearned increment; and this power may very properly be given in connection with unearned increments that are due to public improvements.

The example of Frankfurt has been referred to. In Frankfurt they have built very large dock properties, and have paid for them out of the sales of the adjoining property, which the city is now improving for mill and factory purposes of all kinds. However, in Germany the power of eminent domain is not exercised for that purpose; the city of Frankfurt goes into the market and buys. We will not give such a power to our cities. It shows that you cannot always argue from foreign conditions. We are more willing to grant the power of eminent domain than they are in Germany; we are less willing to let the city become a speculator and dealer in real estate.

The second purpose for which the power of excess condemnation is proposed to be exercised is to resell the property with restrictions. I believe that the city can, if necessary, impose restrictions so that the property adjoining or near the improvement shall not mar the public improvement. It is often asked to what extent the police power can be exercised for the benefit of æsthetic interests. I think the question is put too broadly. The pioneer German act upon that matter, a Prussian act, allows the power

of the state to be exercised to prevent disfigurement. I believe that the power of the state ought to be held to extend to the prevention of disfigurement of the city; and I think if our courts do not recognize that now, they will recognize it sooner or later. If the city wants to go further than that it can exercise the power of eminent domain by the condemnation of limited property interests and the acquisition of easements. That, I understand, has been done in the city of Boston, and has been maintained by the courts in the so-called Copley Square cases. That power ought to be sufficient for the purpose, and I believe that to grant the power to buy lots and then resell these lots subject to restrictions, is a power which is unnecessary and fraught with considerable inconvenience and danger. The Supreme Court of Massachusetts has expressed itself against the existence of the power in an opinion recently rendered to the legislature - an opinion based very largely upon the limitations of the taxing power; but I think the power of eminent domain likewise should not be exercised for the power of buying property and selling it subject to restrictions.

I do not believe in giving to a municipality, either by a stretch of the police power, or through the power of eminent domain, the power to dictate purely æsthetic values in the improvement of private property. Paris has done that: some German cities have done that: but I believe our national sentiment is against it. I do not believe that it is conformable to American ideas that the city should dictate the style of buildings. Mr. Unwin has told us that in the English garden cities they impose restrictions of this character, but it is one thing to be dictated to by an association of which you are a voluntary member; and it is a very different thing to be dictated to by a city, which may be controlled by persons in whom you have not exactly the same confidence that you have in the persons in an association which you have voluntarily joined. So much as to the matter of excess condemnation.

II. I think the committee has acted wisely in not present-

ing, at the present time, a scheme for the districting of cities, or for the establishment of a zone system, as it is called. I doubt whether at the present time or in the near future American city governments can be wisely intrusted with the power of dividing the city into zones, one given to residence districts, another to tenement districts, another to factory districts, etc. The example of Germany and England, again, will be referred to as precedents in point. I am not familiar with conditions in England; but I know something about the conditions in Germany; and there is a fundamental difference between American cities and German cities in this respect. I have been in a position to watch the development of a city like Frankfurt almost for a generation, and for a shorter period also that of the city of New York. Now, those cities have increased relatively about the same in population. In Frankfurt the business district is now exactly where it was; no neighborhood, no quarter of Frankfurt has changed its character - excepting of course the quarter that has been added to the city. New York, as you all know, has profoundly changed. Residence districts have first become business districts; and now they have become factory districts. In other words, in Germany property is conservative, and in this country it is not. Therefore, the districting power in Germany means that it simply registers conditions that are more or less permanent; in this country, it would mean that the city would impose a character upon a neighborhood which that neighborhood, in the course of time, would throw off.

The development of the property of a neighborhood in this country, it seems to me, is beyond the wit of man to foresee. It seems capricious; and I don't believe it is within the wisdom or the foresight of a city council to attempt to control developments of that kind. If this observation is true, it is better that a districting power should not be given to a city at the present time. I admit, however, that it might be very wise to give the power to limit the height of buildings to a certain number of feet, or to confine the high

buildings to certain districts, and forbid them in other districts.

Let me again refer to the example of New York. It was said in the favor of the zoning power, "What a pity it was that lower Fifth Avenue should have been given over to lofts or to factories!" Now, how could that ever have been prevented? The business came and the Fifth Avenue residents moved out. The lofts came in before the new movement was fully realized; now they are there, and to crowd them out would, it seems to me, cause injustice. It is obvious that in these matters we deal with conditions in this country which are very different from what they are in Europe; therefore, powers ought likewise to be different.

It has become the fashion to refer to constitutional limitations in this country with a sort of apology, and with undisguised impatience. I believe that the fundamental limitations are essentially wise and right - and we are not talking here of local limitations, of which every state includes one or another in its constitution which will have to be changed in order to allow wise local improvements to be made or wise laws to be enacted. And in so far as the courts have interpreted them in an unfortunate manner, I still believe that it may not be well to force their hands by constitutional amendments, for governmental powers ought not to run very far ahead of that conservative sentiment which is represented by the courts. think, in the course of time, the courts will be prepared to interpret our constitutions in such a way that under existing powers nearly all can be accomplished that it is really desirable to accomplish, so far as we can at present foresee.

We ought also to remember that a great deal can be done at the present time under existing powers that nearly all the states give to their cities. It is true that not everything that is desirable can be done with reference to conditions that have become settled; but there we deal with vested rights, and I think we ought to go very slow in dealing with

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vested rights, especially since the conditions in this country are not quite as bad as they are in some European cities, where you can't deal otherwise than by a rather ruthless interference with existing property rights, which are hopelessly opposed to improvements that are absolutely necessary. There are not many cities in this country in which there is an imperative demand for exercising powers of that kind. As far as new districts are concerned, most cities have already considerable power to control the matter of city planning.

I refer particularly to two powers: in the first place, the power to direct the location of public buildings, of schools, of recreation grounds, of those offensive establishments like garbage removal plants that every city must have; and I think perhaps power ought to be given to the city to consent to a location of any institution, or any establishment, that requires either the exercise of the power of eminent domain, like a railway terminal, or that claims exemption from taxation, like an eleemosynary institution. With the power to control locations of this kind, a city can do a great deal to determine the character of a new neighborhood.

And, furthermore, the power to lay out streets, which we have discussed this morning, can be so exercised as to determine the nature and the character of a new neighborhood. Surely, if a hundred years ago our cities had the light which they now have in the matter of city planning, a great deal could have been done to improve the appearance of American cities without the addition of a single power beyond that which all cities had at that time; and, surely, the mistakes that have been made through the power of planning show what might have been done if that power had been exercised differently.

These powers ought to be exercised under intelligent instruction and advice; therefore, I am heartily in favor of one of the bills that has been presented by the committee for the creation of city planning commissions. I don't

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think that the city commission ought to be forced upon a city, or that the creation of such a commission should be mandatory. Such a commission should also have the power to employ experts from outside of the state. A commission of that kind could direct the use of the existing city powers in a way that a great deal could be done without any constitutional amendment.

The example of the city of Frankfurt has been referred to repeatedly, especially by Mr. Adams. The city of Frankfurt applied to the Legislature about ten years ago to get an act to exercise a new power, — a power to deal with little lots outside the city that were absolutely unsuitable for building purposes, and which made it impossible, almost, to plan intelligently a new street system in those parts. But that power had not, two years ago, been exercised in a single instance. In other words, everything that has been done by the city of Frankfurt in that wonderful work of city improvement, in which it has been engaged under the guidance of its wise and energetic mayor — has been done by the exercise of influence, and not by the exercise of authority; and I think we can learn a great deal from that.

PHILLIP KATES, Esq., Tulsa, Oklahoma:

In approaching the discussion of a uniform city planning code, suited to present day conditions, I feel that we should not be held to a strict explanation of our ideas, nor a detailed statement of our wants. For I am afraid our ideas are rather vague, and we are now just at the beginning of even a partial comprehension of our real wants. While we should, as the chairman of the Committee on Legal and Administrative Methods suggests, at this time try to secure the passage of laws which are rather modifications of those already existing, and which do not radically change our theories, either of administration or of fundamental law, nevertheless, in discussing the principles upon which the real city planning code must be founded, and the means of

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securing a body of law which will apply to all our cities, we must not hesitate to discuss views which may seem to be divergent from our traditional ideas.

I believe that the city planning code which this conference will eventually approve, and which may be presented as a basis of uniform legislation, must be one arising out of the essential form of the modern city, which shall radically change our conceptions of municipal powers, of municipal rights, and of municipal functions. The city planning code, which concerns itself with the laving out of parks and boulevards, with the erection of magnificent public buildings, and the general embellishment of the city, though it should bring back to us the Athens of Pericles, would not meet our present needs. The city must be considered as a common industrial workshop, as a great market place, and as a home and a pleasure ground for all of its people. And any city plan worthy the name must be broad enough to comprehend all of these; and our laws must be framed to the accomplishment of these ends.

And I believe that the preparation of such a code must be preceded by a survey of the city problem among all industrial nations.

The conditions under which our cities have arisen are so novel, the forces that have created them were so unexpected, and the problems they present are so at variance with all that have gone before, that it is not surprising that an unprepared world has not altogether succeeded in its task.

Prior to the Civil War we were rather an agricultural and a trading nation. Our present factory system had not arisen, and the tremendous problems of the modern city were of the future. The functions of municipal government, beyond those legislative and administrative questions arising from simple police regulation, were indeed few. City government had no problems essentially different from those of the classic cities of antiquity, or the trading centers of the middle ages. Yet it was in this period that our prin-

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ciples of law were fixed; our theory of municipal government was framed. And we are now attempting to apply these principles and these theories to conditions undreamed of in the days when they were formed.

During the later part of the nineteenth century, the rise of the factory system, the crowding inventions of science, the massing of capital, together with the radically changed means of transportation and the incessant coming of the poor of all nations, have brought us to our modern city

problem.

These are the causes that have given us our problem, and it is an economic, an industrial problem; it is not political, not governmental. But we have always so considered it; and though for many years the tide of population has been running full towards the centers of trade; though the factory system has changed the basis of our industrial life, and the massing of great numbers of industrial workers has increased the necessity for communal action, our rules of law have negatived the growth of civic activity; our ideas of property rights have inspired that selfishness which has been the death of civic ideals; and our methods of legislation have prevented any scientific solution of the basic problem, which must come through the action and reaction of the proper need of communal power upon the various phases of individual rights.

Municipal government has been our national failure; and if its failure be not that of democracy itself, it must be the failure of the scheme or theory of municipal government which has obtained; and the re-casting of that scheme demands the tribute of long study and wide investigation. If the failure of our cities to provide for the mass of their people decent housing and adequate public service in its wide sense be not the failure of the industrial system from which our cities spring, then it is the failure properly to co-ordinate the industrial system with the city itself.

And this I believe to be the first postulate to the solu-

tion of our problem; the co-ordination of civic and industrial functions.

In the discussion of the re-casting of our forms of city government, and of the conferring of greater powers for the common good, we have ever been confronted by the Fourteenth Amendment to the Federal Constitution. This has always stood as an insuperable barrier, making necessary the most elaborate schemes of special taxation to take back from the community even a part of the increment of value which the city itself had conferred on city real estate, and causing courts to flounder about among fine spun theories as to the police power of the states, until no one knew whether a law framed after the most careful deliberation, and to meet a pressing necessity, would withstand even the weakest attack upon it.

There has recently, however, been a pronouncement of the Federal Supreme Court upon the subject of the police powers of the states in relation to the Fourteenth Amendment, which, though dictum, would seem to indicate a view on the part of that tribunal that as between public necessity and private rights, private rights must yield. I refer to the case of Noble State Bank versus Haskell, decided January third of this year. Mr. Justice Holmes says:

"We must be cautious about pressing the broad words of the Fourteenth Amendment to a dryly logical extreme. Many laws, which it would be vain to ask the court to overthrow, could be shown easily enough to transgress a scholastic interpretation of one or another of the great guaranties of the Bill of Rights. They more or less limit the liberty of the individual, or they diminish property to a certain extent. We have few scientifically certain criteria of legislation, and as it often is difficult to mark the line where what is called the police power of the states is limited by the Constitution of the United States, judges should be slow to read into the latter a nolumus mutare as against the law-making power.

"The substance of the plaintiff's argument is that the [251]

assessment takes private property for private use without compensation. Nevertheless, notwithstanding the logical form of the objection, there are more powerful considerations on the other side. In the first place, it is established by a series of cases that an ulterior public advantage may justify a comparatively insignificant taking of private property for what, in its immediate purpose, is a private use. And in the next, it would seem that there may be cases besides the everyday one of taxation, in which the share of each party, in the benefit of a scheme of mutual protection, is sufficient compensation for the correlative burden that it is compelled to assume. At least, if we have a case within the reasonable exercise of the police power, as above explained, no more need be said."

On February twentieth an amended opinion was filed by Mr. Justice Holmes, in which the broad language of the original opinion was explained, but it is difficult to see that the analysis of the police power, as stated in the

original opinion, was in any way modified.

If the language of this opinion is interpreted according to its plain import, may we not say that the attitude of the Federal Supreme Court towards the Fourteenth Amendment is this: The police power of the states extends to the taking of private property without compensation where the welfare of the community demands such taking; and where the individual whose property is taken shares in the communal benefit.

There are many who contend — and may I say that it is fast becoming the prevailing opinion? — that in independence of state control lies the solution of the city problem. But there are so many city questions that are so intimately bound up with the state, and our cities know so little of what their measure of power should be, and there is now such uncertainty as to how far that power may, or should, under our constitutional guaranties extend, that without adequate safeguards for the state and without adequate information and preparation for the city, I doubt if this

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theory will work out as its advocates so earnestly hope.

I have seen the working of this doctrine in my own state now for three years, — that is since the foundation of the state, — and the result so far has been that many cities have adopted charters providing for a so-called commission form of government, and when they have provided a simplified administrative machinery they think they have done all. The only other result that is apparent is a diversity in fiscal theory and management. There is indeed much argument for local independence, and there is everything to be said for the commission form, rightly understood. But these two have been set up as a cure-all for every municipal ill.

This over-laudation of a really correct principle, this exaggeration of the effect of a new plan, has caused cities to believe that there is alchemy in the change of the form of government. The only magic lies in the thorough comprehension of the city problem, the understanding of its causes, and the unflagging determination to adjust our municipal law to our industrial system. The form of government is then immaterial.

We know that we must have radical changes in our ideas of municipal government, of municipal rights, and of municipal powers. We know that the city of the future must be co-extensive with the industrial district which calls it into being, and that the industrial life of the community must be the basis of the municipal scheme; and that the organ of government must be suited to the industrial needs of the community life. We know that it is only by constant study and by change, the reaction and the modification of laws, based on actual observation of their workings, that we shall ever evolve a system that will be suited to our needs. We know that there must be in some body the power to change existing laws, as the need for change presents itself. And we know that the present method of waiting for the stated meeting of the Legislature, with its

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unequaled aggregation of unrivaled legislative experts, has proven little better than a farce without humor.

I have thought that we might have a small legislative board, composed of men who are at least versed in the rudiments of municipal government, as our supreme judges must be versed at least in the rudiments of law, which shall be the sole repository of legislative power over municipalities in each state. Such a commission, sitting continuously, might deal with the questions as they arise, and vested with proper power, might evolve a practical code suited to the present day. Cities should have the power to refer the action of the commission to a vote of the cities affected: or the city might initiate a law. In this way we might have real self-government by cities, without the endless confusion which comes from the theory of absolute independence. Such commissions of the various states vested with legislative powers might meet in national conferences, and from such conferences would be evolved a real city code, whose basic principles would be uniform throughout the union.

Now may I suggest that the first thing to strive after is a comprehensive and authoritative study of the municipal question in its basic principle, — its relation to our industrial life. If only we seek this, all these other things will be added unto us.

Such an investigation involves an industrial survey of national scope, with its attendant investigations into causes of congestion of population, and the remedies by improved means of communication and transportation; sanitary conditions as they affect, not only the city proper, but the industrial district; housing, disposal of municipal waste, and above all, industrial working conditions. And also the working of other municipal systems, and of other theories and other methods of legislation; the conflict of public and private rights, and the operation of our constitutional guaranties.

The magnitude of this necessary work is so vast that it cannot be carried on by any private associations or [254]

conferences, nor even by a state. It must be prosecuted by a body with ample power and an ample appropriation.

The problem is national, and its solution should, if possible, be aided by the national government. And I believe that the policy of the federal government furnishes ample precedent for such action.

The Act of May 15, 1862 (12 Stat. L. 387), creating the Department of Agriculture, provides:

"There shall be at the seat of government a Department of Agriculture, the general design and duties of which shall be to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture, in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants."

And it makes an appropriation for that department. At the time of the creation of this department, the city problem was not one of our great national problems. Agriculture was; and the government lent its powerful aid. Each succeeding census has shown an accelerating growth of the movement towards cities, which the industrial system renders inevitable. Is agriculture of more national import to-day than the welfare of our urban industrial workers?

To what an extent the Department of Agriculture has carried its charge to diffuse information on subjects connected with agriculture, may be seen from what is known as Farmers' Bulletin, 367, issued August 17, 1909. This is a pamphlet of twenty pages, dealing with the subject of proper installation of lightning rods on farm buildings.

If this bulletin is a sample of the national questions dealt with by the federal government, it is difficult to see why information on the industrial phase of city life might not also be acquired and diffused. If the rodding of a farmhouse with lightning rods is a question affecting the welfare of the whole people, what in Heaven's name is the opening up of the city slums? It is not thought, I presume, that Congress may compel a farmer properly to rod

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his barn, no more than Congress can compel a tenement owner to rebuild his houses. But the acquiring and diffusing of knowledge of how properly to equip farm buildings with lightning rods is surely no more within the purview of the general government than the acquiring and diffusing of knowledge of city conditions.

An act of June 13, 1889 (25 Stat. L. 182), provides:

"There shall be at the seat of government a Department of Labor, the general design and duties of which shall be to acquire and diffuse among the people of the United States useful information on subjects connected with labor in the most general and comprehensive sense of that word, and especially upon its relation to capital, the hours of labor, the earnings of laboring men and women, and the means of promoting their material, social, intellectual, and moral prosperity."

This department has since been merged in that of the Department of Commerce and Labor, which is represented by a cabinet secretary.

The Sundry Civic Appropriation Act of July 1, 1898, provides:

"The Commissioner of Labor is authorized to compile and publish annually, as a part of the bulletin of the Department of Labor, an abstract of the main features of the official statistics of the cities of the United States having over thirty thousand population."

The Act of February 14, 1903 (32 Stat. L. 825), creating the Department of Commerce and Labor, contains even more detailed applications of the same general principle.

We have through all these and similar acts a distinct recognition by the general government of its power to aid the development of agriculture, of commerce and labor, and to aid in the protection of the public health; not because they are matters arising under the interstate commerce clause, or under any of the specified powers of the Congress, but because they are questions affecting the general welfare of the whole people.

The instrumentalities of commerce, that is to say the corporations or combinations of capital, are directly regulated by the general government only when they do an interstate business. But the work of compiling general information and of fostering commerce and manufactures is carried on without reference to the interstate character of the business, and simply for the benefit of the Union.

If we consider the problem of city government, of city building, and of city administration, as an industrial and not as a state political problem, why cannot the federal government lend its aid to this question also? We must admit that the city has failed because it has not adjusted itself to the industrial system which has come upon us. Every condition which to-day is sapping the vitality of so many of our industrial workers — congestion of population, inadequate transportation, inadequate sanitation, the inadequate regulation of factory work — has arisen from the unlooked-for development of the industrial system. These problems have arisen out of our manufactures and our commerce, which the federal government, through an executive department, and by the aid of its consular service throughout the world, seeks to foster and develop.

I believe that unless we recognize the city problem as essentially an industrial and not a political problem; unless we accept the co-ordination of industrial and civic functions as the foundation on which to build, — though we may provide our model tenements and evolve elaborate schemes of special taxation for public improvements; though we simplify administration and concentrate responsibility, — we shall have the city problem recurring in newer and more aggravated forms with the further development of our industrial system.

Could not Congress create a Municipal Commission, which would be charged with the duty of compiling a general survey of the working and living conditions of our city dwellers, and of the operation of the various theories of municipal laws. Our consular agents throughout the world

might be required to investigate and report on conditions in the countries to which they are accredited, much as they now report on manufactures and commerce; and the Municipal Commission might follow with fuller investigation any promising leads.

We would thus have what would be a world-wide survey of municipal conditions — of the working of municipal laws under all the states and among the industrial nations of the world.

Congress could not, certainly, legislate on this subject except as to the District of Columbia; but the nation would be possessed of what is essential to the proper solution of our problem,—a complete statement of conditions and of their causes; an understanding of the relation of the industrial system to the city problem; and a wide knowledge of the working of the various theories of municipal government.

This conference suggests the real scope of the question. It knows no politics and recognizes that the question is essentially not a political one. It knows no state divisions, and acknowledges that the problem is one of national import.

And so I suggest that this conference consider the advisability of urging Congress to appoint a commission to inquire into the condition of urban industrial workers throughout the Union, and into the causes of those conditions which so vitally affect the welfare of the nation.

The general discussion was participated in by Mr. George E. Hooker, Secretary City Club, Chicago; Mr. F. L. Olmsted, Brookline, Mass.; and Mr. Thomas Adams, London, England.

It was urged generally that Professor Freund's argument against zone restriction in America, because the uses to which property were put changed so rapidly, was not conclusive, since in a country of rapid changes in the use of property there was all the more need for control. It was no answer to the argument for control that the city authori-

ties were not as sufficiently acquainted with the subject as in Germany. They ought to become acquainted with it. They should adopt such plans as would combine the elements of rigidity and flexibility. Conditions were constantly arising in American cities which demanded immediate attention. Often in a purely residential neighborhood a condition was created, by the erection of a factory, which affected the property valuation of perhaps one hundred or five hundred different owners. It would be wise in each case to provide that for a certain period, and until the areas available for factory use adjacent to those which had already been developed for that purpose had been more fully occupied, no factory should be erected in a particular neighborhood. It was contended that the principle and practice of the zone system was not to exercise any violent pressure on existing uses of property, but to exercise a wise and beneficent direction of changes in existing uses.

This point was further elaborated by the suggestion that there might be created a system of what might be called local option district regulations, not imposed arbitrarily by a superior authority in its own discretion, but adopted by a sufficiently large majority of the owners of the land in a given district, the boundaries of which would be determined as other local option districts are determined, in order that the large majority of owners might be protected against the action of a small minority. In this way instability in the character of the occupation, and the large consequent economic waste, might be avoided. Already this principle was found in the restrictions adopted by large land companies.

In answer to Professor Freund's contention that it was inexpedient to give municipalities compulsory powers over landowners, and that where such compulsory power had been given, as in the lex Adickes in Germany and under the British Town Planning Act, no use had ever been made of such power, it was argued that both in Britain and in Ger-

many compulsory powers were necessary in order to secure the voluntary action on the part of the landowners.

In order to clear up any misunderstanding of the British Town Planning Act, Mr. Adams explained

- 1. That the act not only included land likely to be built upon and land in the course of development, but by section 3 of article 54 it included such pieces of land already built upon as were so situated that they should be included in any town planning scheme.
- 2. That co-operation between local communities was insisted upon a principle which might be followed with great success in the United States.
- 3. That where local authorities refused to prepare a town planning scheme, or refused to adopt one already prepared by the owners of the area involved, the Local Government Board might order the local authority to adopt the scheme, or might itself in its discretion adopt the scheme, which thereafter had the same effect as if adopted by the local authority.
- 4. That finally the owners of the area involved in the planning scheme must pay back to the community half the benefit received, and addition to this payment of benefit the owners were to receive no compensation for the taking of property by reason of provisions which prescribe the space about buildings, or limit the number of buildings to be erected, and prescribe the height and character of buildings.

THE HISTORY AND ORGANIZATION OF THE CITY PLANNING CONFERENCE IN THE UNITED STATES

The first City Planning Conference was held at Washington, May, 1909, at the call of the New York Committee on Congestion of Population, and at this meeting the fol-

lowing resolution was passed:

"That a committee be formed to arrange for a more complete National Conference on City Planning and the Congestion Problem, to be held in 1910, and to submit to the conference a well-considered project of organization for developing comprehensive city planning in America, and that the committee consist of representatives of the following organizations:

Committee on Congestion of Population in New York American Institute of Architects American Society of Landscape Architects League of American Municipalities American Civic Association

National Conference of Charities and Corrections and such callers of this conference as will serve on the committee, with power to add to their number."

In consequence of this resolution the Second National Conference was held at Rochester in May, 1910, and the executive committee reported to the conference their belief that a simple organization for continuing the annual conferences rather than a permanently organized association was advisable. The Rochester Conference accepted the report of the executive committee, and appointed a large general committee with power to arrange for the Third

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Conference on City Planning. This committee had two meetings in New York, in May and June of 1910, and appointed an executive committee which carried on the work of arranging for the Conference of 1911.

At the Philadelphia meeting in May, 1911, the executive committee again recommended the continuance of the loose, temporary organization rather than the establishing of a permanent and elaborate organization, and a committee of five was appointed by the conference to consider the best way of carrying on the work and to report in as brief a time as possible. The report which was adopted was as follows:

RESOLVED: That the further proof of the value of the National Conference on City Planning given by the success of its third meeting justifies its continuance by the holding of a fourth meeting.

RESOLVED: That the members of the present executive committee of ten be constituted as an executive committee to select a time and place for the holding of a fourth meeting and to make all necessary arrangements.

RESOLVED: That such executive committee be and they are hereby authorized and instructed to direct the work of the conference from the present time until the conclusion of the next general meeting, and that they are hereby empowered to act for and in the name of the National Conference on City Planning, with power to add to their number at their discretion.

FURTHER PROCEEDINGS AT THE BUSINESS SESSION

THE following resolutions were adopted by the conference:

RESOLVED: That the National Conference on City Planning hereby records its profound sorrow at the death of John Merven Carrere.

In him were centered many diverse and admirable qualities. To his mastery of the art of architecture he added extraordinary executive ability. His work in city planning demonstrated these abilities in a single direction, but his great-hearted nature led him to take part in many efforts for the general well being. He was high-spirited, optimistic, courageous, and he gave his immense energy and his unflagging enthusiasm to whatever promised for the public good.

He was in the fullest sense a splendid citizen. His place is secure among the great architects of his time.

RESOLVED: The advancement of scientific city planning in the United States is a matter of national importance depending upon fundamental principles, which are the same throughout the country, and

Our understanding of these basic principles and of the methods by which they can be made practically effective is greatly confused by the perplexing diversities of constitutional and legal conditions in different localities.

That in the opinion of this conference it is desirable that the national government and the several state governments undertake an inquiry into the problems of city planning

from the national point of view, unprejudiced by the peculiarities of any state constitution; and

That the executive committee be directed to confer with the officers of the federal government and of the several states as to the practicability of such governmental inquiry.

RESOLVED: That this conference endorses the project of arranging for the systematic international exchange of exhibits illustrative of city planning, and of preparing uniform international standards of size and methods of presentation in order to facilitate such interchange, and that the executive committee be directed to take such steps as may be practicable to advance the project.

RESOLVED: A reasonable complete and properly annotated record of available publications dealing with the problems of city planning is greatly needed by those working in every part of the field, and

The Department of Landscape Architecture of Harvard University has already brought such a bibliography, under Professor Pray's direction, to an advanced stage, and aims to continue it indefinitely, if means permit,

That this conference commends the work thus undertaken and urges that the Department of Landscape Architecture of Harvard University be kept informed regarding any publications which should be included in a comprehensive bibliography of city planning.

WHEREAS: Columbia University is giving extended courses in city planning in the Department of Political and Social Science and in the Department of Architecture, as well as under the auspices of the Academy of Political Science,

AND WHEREAS: No comprehensive collection of city planning material exists in New York,

AND WHEREAS: The considerable number of people about New York who are interested in city planning demand a chance to study the development of American cities,

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BE IT REQUESTED: That copies of all material relating to any side of city planning be sent to the Avery Library of Columbia University in New York City.

RESOLVED: That the hearty thanks of the National Conference on City Planning be and they are hereby tendered

First, to His Honor, John E. Reyburn, Mayor of Philadelphia, for his invitation to the conference to hold its meeting in that city, for his profound interest in the subjects with which it is concerned, and for the many courtesies to it and to its members.

Second, to the Fairmount Park Art Association and to the City Parks Association, which joined with the Mayor in the invitation to the conference, and to the many organizations acting as hosts to the conference.

Third, to the City Club of Philadelphia for its fine hospitality and public spirit on the occasion of the meeting.

Fourth, to the General Committee on Arrangements, and especially to its Secretary, Mr. Andrew Wright Crawford, and to the Women's Committee for the conference, for the excellence of all arrangements to which so much of the success of the conference is due.

WHEREAS: The splendid exhibition of plans for the improvement of cities, held coincidently with the meeting of the Third National Conference on City Planning, has added very greatly to its interest and value, the conference desires to record its appreciation of that exhibition which, as the largest and most representative ever held in America, marks an epoch in the progress of city planning.

The citizens of Philadelphia have in it an opportunity for acquainting themselves, not only with improvements of the greatest import proposed for their own city, but with changes in physical arrangements under consideration and in progress throughout cities of the United States and even with those of other nations.

The conference tenders its hearty congratulations to the [265]

city of Philadelphia upon the unqualified success of the first exhibition of city planning ever held in America under the auspices of a municipality.

The following invitations were received from cities which desire to entertain the conference in 1912:

An invitation from Boston presented by Mayor John F. Fitzgerald; an invitation from Baltimore presented by Maj. Joseph W. Shirley, Chief Engineer, Topographical Survey.

An invitation was also presented from San Francisco by William M. Bunker, Trustee of the Chamber of Commerce, to hold its 1915 meeting in San Francisco.

REMARKS AT THE DINNER GIVEN BY THE CITY CLUB OF PHILADELPHIA

Toastmaster Hon. Walter L. Fisher, Secretary of the Interior:

Mr. Chairman, Ladies, and Gentlemen: When the representatives of this conference on city planning came to Washington, to me, shortly after I had become the Secretary of the Interior (somewhat unexpectedly), I told them that it was absolutely impossible for me to undertake anything whatever in the nature of an address, even upon a subject in which I had as deep and long an interest as in the subject of city planning. They assured me, however, that was not what was expected of me upon this occasion; but that they wished me to come merely that I might serve in that capacity which my friend, Mr. Burnham, has already usurped; and so, not being able to justify a refusal to come, to manifest by my presence the interest that I have in this subject, I am here.

All of us, I assume, have been impressed with the importance of the city in the history of civilization and of mankind. Sometimes we are apt to think that the preponderating importance of the municipality in these days of ours is due, in some way and some measure, to the advent of the industrial era; and yet, if we think back, we will see that the entire history of civilization is strewn with the wrecks of kingdoms and of empires which, after all, are typified to us by the name of some city; whether it be Babylon, or Athens, or Rome; whether it be Paris, or London, or Vienna, or what one of the great cities of the past that rise in our remembrance. They all seem to us, I think, to typify

the civilization that was in existence at the time a particular empire or kingdom was in the ascendant.

We have been told that the problem of the city is the great problem of government; we know that in the past the fate of the city has decided the fate of the empire, just as the city of Rome was the seat which determined the great events which controlled the destiny of the Roman empire in the days of its grandeur, and just as the events in the city of Athens controlled those of Greece and, to come down to more recent times, we all know what preponderating influence the city of Paris has had in the history of civilization.

To-day we are told that, even more than in the past, the great conundrum, the great problem which we are set to solve in this country, and in all of those countries where the rising tide of democracy is coming into its own - the great problem is, how to work out the difficulties which confront us in our cities. Now, while we look upon some of the darker aspects of municipal life, I wish to record myself as one of those who join in the expression, — the happy expression which was adopted by one of the gentlemen who has been prominent in this conference, when he entitled one of the books which he wrote "The City the Hope of Democracy"; for I believe that the problem of the city can be worked out so that the city will no longer be a menace, but will be the very citadel of the strength of your nation; and it is in that belief that I am here to-night, it is in that point of view that I believe in these conferences for city planning.

The things that we are concerned about in the cities are, after all, no longer so much the mere mercantile problems that once confronted us; we are thinking of the city to-day as the place where men live and work; we are thinking of it as a place which it is our duty to make pleasanter, and more effective as a place in which they can do their work, and a more comfortable and desirable place in which they can live; and as we make it so to all of the individuals,

particularly to those great masses of the people who are more confined to the city than their more fortunate brethren, we will achieve the ideal.

I am, of course, particularly glad to be here upon this occasion myself, as a guest of the City Club and of the city; because it was my fortune to have been consulted at the time the City Club was first organized, when the problem of what sort of a club it should be was being discussed with great seriousness by the men who were interested in it: and I think I am violating no confidence when I say that their chief concern at that time was that it should develop into a practical institution; and the fact that it is here to-night joint host with the city, represented by its mayor, is to my mind one of the best evidences that it is achieving the ideal and the goal for which it set out. But, after all, while we do not wish to be regarded as visionaries, we do hope, in some slight measure, to belong to that company of men who have the vision of the future — the men who, like Olmsted and Carrere, have worked out many of these problems in a spirit which has aroused the enthusiasm of all those who are looking forward to the accomplishment of their ideals, which will result in the greatest good to the greatest number.

And in studying these problems, we are all glad to note that, right here in the city which is the meeting place for this conference, so much is already under accomplishment and is being carried out successfully. One of the things which interested my attention this afternoon, as I walked through the exhibit in the City Hall, was the showing of what the city of Philadelphia is now actually undertaking, and it is with the greatest pleasure that I introduce the first speaker of the evening — the mayor of your city.

HON. JOHN E. REYBURN:

I don't know how those of you that have taken part in this meeting and have attended its daily meetings have felt, but I have been thinking all the time that it was the most ab-

sorbing thing that had ever been in this city within my knowledge and experience. There was an earnestness and a singleness of purpose in the leaders and the followers, I might say, in all this movement. I have tried to think out what the significance of it was, and I have finally come to the conclusion, or at least the idea has risen in my mind so strongly that I have not been able to eliminate it altogether, that this movement indicates an epoch. In other words, the thought in my mind is that the struggles that men have gone through with for generations have been for personal liberty, in the defense of their rights; and now that those personal liberties throughout the world have been for the most part obtained, a further struggle is not the necessity of the day or of the hour. There is something else coming; and that something else is the city, is the home, because the life and the government of the city enters into our daily lives more closely than any other part of our government. With the government as a guard, or one to appeal to, we are beginning to study out our own immediate environment, better provisions for our wives, our mothers, our sisters, our brothers, and our children, and more than all else the children; because the children are to be the men and women of the coming generation.

This conference has been so absorbing because of a deeper meaning — a belief that there is something underneath it all that means vastly more than a consideration of merely local ills. What does this comprehensive planning take in? It has taken in all the various things that go into the comfort and enjoyment of our people and into the making of our city greater and more progressive. As the various steps have led up into the preparation and the putting forth of our own plans here, the thought was started and given force to that we should have a consultation of those who had given this thing more study. And they have come here, and they have given us their best thought — the result of years of work and experience, given to us for nothing.

That alone shows that there is something, after all, in men

more than mere selfishness. Any one of these gentlemen could have demanded large fees for the service that they have given to the city of Philadelphia freely. If I fail for words to express the thought of myself, — and the thought of the people of this city, — it is simply because the work has been so unselfish and so great and noble in its sacrifice that I cannot express fitly my deep thanks to those who have come, not only from our own shores but from foreign shores, to give us the benefit of their advice and to consult with us to see what we are doing, not for a class of people but for the whole people.

And so comes in again this idea that has impressed itself on my mind so strongly, that there is a great era coming in the world when we are going to study out and to perfect civic conditions where there is a congestion and a gathering together of great masses of people. People believe they can have more of the things that are for their good in the world than if they were scattered, and it is our duty to help them realize this belief.

We must study, not alone the commercial and material development of our city, but its educational outlooks. We must lay out such plans and start such movements that will not only make our city beautiful but useful in the highest sense.

Now, my friends, take the Schuylkill River to-day and most people would smile, and say, "Well, that is beyond any kind of improvement." The Schuylkill River, even in its worst part, is capable of a development along lines that will change its character; and the Schuylkill River has been taken by the city of Philadelphia, and the park system borders along its line. Why not go to the county of Montgomery, to the cities of Pottstown, Phænixville, and to those cities along the line of the Schuylkill River as far as Reading, and say to them: "Here is a beautiful river, it is worth nothing for commerce, but it can be made invaluable with the beautiful valley streams that run into it; it can be made a garden of paradise for the future."

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Why not start a movement, after we are through with our Philadelphia end of it, to extend this park system out into the state, and with the help of counties and cities bordering on the river, and the state itself, take and preserve it for the future, so that the future generations may say: "Our fathers have left this as a heritage, so that we may see what nature was when the country was first settled; and long before it was blotted out and destroyed, they saw the necessity and preserved it for us."

Can we not have not only a comprehensive plan for our city, but also extend the hand of fellowship out to our neighbors and realize a great and worthy ideal? Let us, as we are doing to-night, as we have done for the last four or five days in this city, start a movement for the betterment of civic and urban life.

Now, to those who have come to us from a distance, I want to express our pleasure in having you with us, our regret in your departure, and to the officers and active members of this association, great thanks for this opportunity to study and to learn the things we did not know and the things we ought to know.

COUNT JOHANN HEINRICH VON BERNSTORFF, German Ambassador:

It has been well said that the system of municipal government in Germany has been shaped by the conviction that the work of governing a town is so important and so difficult, that it requires the whole working time and all the powers and thought of able men who have acquired special knowledge of the problems of town administration by a long experience of the work, and who know that if they are guilty of neglect of duty or act dishonestly, they will be ruined for life by losing their positions, the salaries on which they live, and the confidence of the public, without which they cannot obtain other appointments.

While a considerable number of persons on the town council are permanent officials, the majority of members

are elected, and it is the elected members who appoint the Ober Bürgermeister who has to assist him, two or three Bürgermeisters, and other permanent officials, invariably men of high educational standing and great experience.

The First Bürgermeister holds his office practically for life; but he is subject to re-election for long terms of office. The members of the city councils are re-elected by sections, so that the composition of a municipal body is never completely changed.

The mediæval town of Frankfort grew out of an old Roman settlement, which was extended for the first time in the middle of the twelfth century. Streets now occupy the position of the ramparts then erected, and in one of these streets was born the most distinguished citizen of Frankfort - Johann Wolfgang Goethe. In the middle of the fourteenth century the town was enlarged for the second time, and the boundaries then laid down remained until the beginning of the nineteenth century, when the walls were broken down.

Part of the fortifications were made into public gardens; the remaining ground was sold to private persons, but on condition that on each side only one building should be erected, while the remainder should for all time be preserved as garden ground. This regulation has rendered possible the belt of public and private gardens which surrounds Frankfort, and which her citizens consider as one of the greatest benefits that their ancestors have left them.

The removal of the walls gave the town full liberty of expansion in every direction and rendered the existence of modern Frankfort possible.

In a modern German town new streets are not the creation of private enterprise. It is not the owner of the land who makes the plans for a new street according to his own interest: but the town council plans the streets in accordance with the interest and needs of the whole population.

There are no restrictions as to the width of streets or [273]

as to their construction, so that the town council has full liberty to consider the requirements of different districts. One street may be eight meters wide, another twelve or thirteen meters wide, and so on. Some streets are fifty meters wide, so that the width of streets may be said to range from twenty to two hundred feet.

The town council also prescribes the material to be used in the construction of roadways and footpaths, whether

wood paving, asphalt, or something else.

The naming of streets is also entirely in the hands of the town council.

The council decides in what streets front gardens are to be permitted and how large they must be, what streets are to be planted with trees, and where public squares, playgrounds, etc., are to be situated. In this way a distribution of open spaces and playgrounds all over the city is secured.

The municipal authorities also decide what classes of buildings are to be erected in the various localities. Some districts are devoted to factories, others are declared to be mixed quarters, where both dwelling houses and workshops may be erected, while the remainder is set aside as a residential district.

The following is the method of town planning followed by the municipality. First of all a plan is made, showing the general scheme of the proposed new streets. The public is invited to inspect the plan and objections are received and considered by the body which has to sanction the plans, and which is known as the Bezirksausschuss. Only after the plan has been approved are buildings permitted to be erected.

It is in the interest of the landowners that the street plans should be approved, and it rarely happens that sanction has to be refused to a plan on account of objections brought against it.

The streets are planned not merely for this year's or next year's convenience but with a view to the probable requirements of a long period of years.

Of course the municipality could not exercise this power of town planning unless they had also the power of expropriation. This power is given by law, and there is no need to go to Parliament for special powers in a case where expropriation is necessary. But as a matter of fact it is very rarely used. In the great majority of cases the landowners prefer to hand over to the municipality, by agreement, the land necessary for the formation of new streets. They know quite well that the value of their property will be raised by the erection of new streets, and also that the power of compulsion is in the background.

In many cases, however, the municipality already owns the necessary land. The city as well as the hospitals and other benevolent institutions which are under its control, inherits from ancient times a considerable amount of land lying within the city boundaries, and increases its landed property yearly by buying other estates. Within the last ten years the city of Frankfort has expended more than fifty million dollars in the purchase of land. There are no hindrances in the way of land purchase by the municipality, and the city has always found good use for as much landed property as it possesses. It is needed for parks and playgrounds, for docks and warehouses, for electrical works and tramway depots, for hospitals, and schools.

In German towns all works which have the character of a monopoly are to a great extent municipalized.

The city and the institutions under its control possesses within its boundaries twelve thousand eight hundred acres of land, i. e., more than half of the entire area of Frankfort. Outside, the municipality owns thirty-eight hundred acres, making a total of sixteen thousand six hundred and fifty acres. Of this eighty-five hundred acres are covered with wood which will probably be used for building purposes. The largest part of the timber is produced by the municipal forest or stadtwald, purchased from the German emperors at the end of the fourteenth century.

You have seen how our streets are laid out and how the

necessary land is acquired. But a difficulty arises from the fact that most of the land outside German cities is not in the hands of great owners but of small proprietors, and any of these plots of ground when acquired would be unfit for building purposes, being too small or too narrow for the purpose.

It is therefore necessary to bring these small plots into a shape more suitable for building purposes, and this is done by an institution called Umlegung, which may be rendered as re-distribution. It means that all the plots of ground belonging to different owners, situated in a given area, are united into one plot. Out of this plot is taken the land needed for streets and squares, and then the remainder is carved into suitable sites, and each landowner receives a site corresponding in size to the area which he has handed over to the Umlegung, less the area taken for streets. Many such re-distributions have been made in Frankfort.

Of course, such a re-distribution could not be carried out in any given district unless all the landowners of the district concurred in it. If a single landowner did not consent, the project could not be executed even if it were to the undoubted benefit both of the landowners and the town. Therefore efforts have been made in the last few years to make the Umlegung compulsory, and at last a special act for Frankfort was passed by the Legislature, which is called the Adickes Law, after the name of the Bürgermeister, who has done most to advocate the idea of re-distribution. By this act the city is entitled to make any re-distribution, if half the landowners in a given area consent, and if the consenting landowners possess half of the land in question. An amendment to the act has been passed since, which empowers the city to take out forty per cent of the area in question for streets, and to leave only sixty per cent for re-distribution among the landowners.

In cases of re-distribution the city acquires without payment the land required for streets. But in cases where the city has to give the land required for streets out of its own

property, or to acquire land by purchase or expropriation, an outlay of thousands of marks is necessitated. Fortunately the city is enabled to recoup itself, for the law provides that the landowners are obliged to repay the expense which the city has had in forming streets, as soon as they begin to erect buildings on these streets. They have to pay for each site according to the length of its frontage. Besides this, they have to pay the cost of keeping the streets in repair during a certain number of years.

In cases where public works are especially profitable to the landowners of a certain district, the city has power to raise a special rate from these landowners.

In this way the municipality secures its share of the profits which accrue to the landowners by town extension. Vacant sites are rated not on the income they give, but on the capital value. Moreover, the unearned increment is taxed on a sliding scale, and people have to pay a certain percentage of the profit they have made by selling a building or a vacant site.

Now with reference to the provision of good and healthy dwellings for the working classes, there are in Frankfort, as in all large and ancient cities, a number of undesirable dwellings. But the area in which these dwellings exist is constantly decreasing, because the dwellings are being transformed into offices. A great many old houses have disappeared owing to the laying out of new streets. These new streets, which cost many millions of marks, were made chiefly to secure better lines of communication; but at the same time they have improved the housing conditions. The building regulations also tend in this direction.

The building regulations of Frankfort are drawn up by the city council, not, as in many other German towns, by the state government. At a very early period regulations existed which forbade the erection of unhealthy houses, and during the period of industrial expansion no cellar dwellings or back-to-back houses — and it may be added no slums — could come into existence. I should overtax your patience

if I were to quote the building regulations in detail, but it may be said generally that they are designed to secure a sufficiency of air space and to diminish the density of population. The town is divided into three districts or zones. In the inner zone buildings with basement and four upper stories may be erected; in the middle zone houses with basements and three stories are permissible, but in the outer zone houses may not have more than two upper stories, and in small streets only one.

In the inner zone one-quarter of each site must be left without buildings; in the middle zone four-tenths; and in the outer zone five-tenths. This does not include front gardens, if such exist. In certain districts even eight-tenths of the whole space must be left free.

It is all the more necessary to provide plenty of open space, because in many parts of Germany, and certainly in Frankfort, people cannot afford to have houses of their own. The working classes and even the middle classes are compelled to live in flats, because the price of land, and, in consequence, the rent of the houses, is very high.

The cities are therefore devoting increasing attention to the housing of the workmen employed by them and of the less prosperous inhabitants of their districts in general. On the one hand, they construct cheap dwellings of a small size for the municipal workmen, or they stipulate by statute that such dwellings constructed by them may only be let or sold to workmen and subaltern officials; on the other hand, they encourage private builders or building societies to construct such dwellings by granting them certain favors and subventions in money, or by conceding municipal ground to build on. Besides, they endeavor to improve the dwellings in existence and help the requirements of offer and demand by issuing police rules for the condition of dwellings, by appointing inspectors of dwellings and opening dwellings' register offices. In their treatment of this problem the German municipalities have an advantage in their favor in the landed estate which com-

monly forms an important part of a city's assets. It is for the most part land unbuilt upon and not always within the present municipal area, yet its eligibility for public and for residential purposes increases every year as the means of locomotion are improved. Berlin, Cologne, Munich, Dresden, and Frankfurt, among the larger German cities, are especially rich in this respect, thanks largely to the foresight and intelligence of their local officers in the matter, and few places of any consequence are entirely without land. There are also few which do not intrust to their statistical bureau, which forms so important and so instructive a department of municipal government, the duty of enumerating houses, with details as to character, proportions, number of rooms, and of inhabitants, rents, etc., so full and exact as to give to the reports a high social value. Leipzig is one of the cities and there are many of them - which have devoted a portion of their real estate to the housing of the working classes. The municipality there has leased for one hundred years, at a low rent, to a philanthropic building society, a large piece of communal land in the environs, for the erection of cheap houses. The majority of the houses have to contain three and some of them more than four rooms. This society cannot transfer its leasehold rights to third parties without the consent of the municipality, and in the event of doing so, both the offending contract and the lease itself may be canceled. The municipality undertook the initial construction of all squares, roads, and footpaths, and went further in undertaking to advance money on mortgage for building purposes, should the building societies' revenues prove inadequate, with the provision that the society must refund the loan by regular re-payments in such a manner that on termination of the lease the mortgage will be redeemed. The municipality will then take over the land and the dwellings built upon it without compensation.

MR. RAYMOND UNWIN, London, England:

It is a great privilege to me to be asked to speak at this banquet at the close of a great conference. It is a responsibility for which I feel very inadequately fitted, to be asked to speak on behalf of England. For I do regard this interchange which is taking place here, and which has taken place so recently and so fully between our country and Germany on questions which really matter to the citizens, as one of the most helpful features of modern civilization.

I wonder if you in America realize how much my generation of Englishmen have been influenced by America. I wonder how many of you realize that to many of us some of the earliest recollections are associated with your country's history. I go back to the days when as a boy I visited the home of my grandfather, and one of the pictures hung up there in the place of honor was a portrait of Abraham Lincoln; as a boy, I was associated with the reverence with which my grandfather regarded the personality of Abraham Lincoln, and of many other of his contemporaries who had such a wide influence in establishing liberty.

I regard it particularly as a privilege to speak after the German Ambassador, who has so ably presented to us something of the German town planning principle; because we owe very much to them as pioneers in this work. We English people who are interested in this subject have enjoyed German hospitality; we thought that their hospitality was unrivaled. I may say, now, that I must bracket the United States and their hospitality with that of the Germans.

The Ambassador has said that he as a diplomat must not speak about those things which he knows. I am not a diplomat, and perhaps I may be allowed to speak of something which I do not know but which I think and which I hope the Ambassador does know; but it does seem to me that these gatherings, which lead us individually

to take a personal interest in things that really do matter to the lives of the people in other countries, are doing something to back up the work of the ambassadors in the establishment of international peace.

I know when I read this extract from your morning paper to-day, that to every city planner, of whatever nationality here, there will be a thrill of pleasure. The Prussian Diet to-day adopted the Greater Berlin bill, which will combine the capitol and the suburban municipalities, forming a metropolitan area for the purposes of town planning (city planning, as you call it), and including a population of three million, two hundred thousand people. We all realize, we city planners, that that one little fact stated in a corner of your paper has relieved the great city of Berlin of one of its greatest difficulties in going forward with the great work of city planning, and we will all receive that news with pleasure, just as much as if it applied to our own country.

It has been suggested that you are beginners in town planning by some of the humble members who have spoken. I do not feel that you are beginners at all. I feel that you have much to contribute, you have much to teach, here in this great city of Philadelphia which was planned by William Penn back a long time ago, here where you have the city of Washington as a great example to which we city planners all look up, here where I see such a splendid growth of civic spirit, where I see city clubs arising in the different cities to study this question, where I see your business men gather together to see whether they cannot improve the planning of their cities and the conditions of life. I say that I feel inclined to congratulate you and to feel that we in these older countries will have to look to it that we do not get left behind. There is a friendly rivalry here: let us rival one another as much as ever we can.

I have to congratulate your city on being the first in the United States, as a city, officially to take up this ques-

tion of town planning and to be good enough to become the hosts of the City Planning Conference, to be good enough to lend their rooms for the exhibition of that magnificent series of drawings and examples of city planning which are to be seen on the walls of your City Hall to-day, and which I hope all the citizens of Philadelphia will take an opportunity of studying before they go. Anybody who walks through that exhibition cannot think that America is a mere beginner in city planning.

I also have to congratulate this city on being one in which the conditions are less difficult to deal with than they are in some American cities. You have generally here the cottage type of dwelling: you have not the enormously high tenement dwellings, the dealing with which in any rational way seems such a difficult and hopeless task. I trust that, perhaps, partly as the result of this conference. you may look to it that you copy the example that the Germans have set in this matter - that you limit the height of the dwellings, that you may limit the proportion of the site of any plot that may be covered by buildings, and that you see to it that you do not allow your city to be overrun by the huge tenement blocks packed together in such a way that there are rooms without light, rooms without air, where rampant consumption develops. You have a great opportunity, so it seems to me, to make, with less effort, this city a city worthy to be the residence of free men.

It is a matter of the greatest interest to us in the old countries to see the way in which you are working out the institutions of individual freedom. A very great thinker in England has said that liberty does not consist in the freedom of the individual to do as he likes, that no creature has such freedom; but that freedom—liberty—consists in the freedom to like what he should do. I believe there is a great philosophical truth underlying that apparent paradox.

Now, it is suggested that I should tell you a little of [282]

English town planning. I believe I have already talked to you on that subject so much that you must be getting sick of hearing me. However, I will try, in a few words, to fulfil the duty that has been allotted to me, and not to bore you.

In England we have the great difficulty (the same difficulty that you have) that our towns have been growing faster than our capacity to deal with them, or regulate them. We have come to the conclusion that we must take in hand the development of our town from many points of view; and for some years past there have been people in our country studying town making, and the decision has been reached that the preliminary of any town planning work must be a thorough survey of the city, of the conditions of the life and welfare and ill-fare of the people; and that only upon this knowledge, and upon the guidance which this knowledge gives by getting a thorough grasp of the natural lines of development, can a proper city plan be made. It must be the outgrowth of the city.

We have come to the conclusion, also, that the city is really based on the homes of the citizens — not the homes of the wealthy only, but the homes of all citizens; that it is only when the homes of the people are satisfactorily healthy — when they are healthy to dwell in, convenient in access to their work, and when they are surrounded by the reasonable amenities of life — it is only then that there can naturally spring up that beauty and glory of the central parts of cities, that beauty of fine architecture, that glory of statuary and other art which has been in the past, apparently, the natural course of events that should follow on the growth of a great city.

The ideals of great civic life naturally express themselves in great beauty; but before this comes, you must have your citizens properly housed, you must have your children properly brought up in healthy surroundings. And, further, we have realized that one of the things to be looked at in city planning is to contribute to the devel-

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opment in the most economic and orderly manner of all the industrial and commercial opportunities which the site of the city affords, in order that you may have a good economic basis for your civic life.

Finally, we feel, most of us, that when you have got all this, when all your sociologists, your economists, your archæologists have studied the question, when your engineers and your surveyors have studied the question — that the putting of all this sum of knowledge into a final column of expression — that that becomes an artistic problem; and it is an artistic problem for this reason — that the same rules which apply to the creation of an artistic design are at the basis of a convenient and workable city, the same proportioning between the different parts, the same bringing into harmonious relation of the industrial quarter, the commercial quarter, the residential quarter, the same grouping and linking together of your civic and governmental center, your educational center, or your university and your recreational centers, the same linking of these together by main highways of great width to accommodate the main lines of traffic, the secondary highways for convenience of communication in the detail parts, the same subordination of the minor parts; so that you may have the small, light roads giving access to the different groups of buildings; all this follows the same rules, exactly, as govern artistic design. The final problem of town planning consists in finding the simple, obvious and direct form of expression which shall give to the outward setting of civic life that beauty of form and relation and proportion which it is as much the nature of human creatures to give as the finishing touch to their work, as, I believe, it is natural that trees and mountains and other creations of nature shall be beautiful.

HON. FRANCIS G. NEWLANDS:

When the invitation to this conference came to me at Washington, I found myself in all the perplexities of an

extra session, charged with the responsibility, as a member of the minority party, to see that the majority party did its duty. And under that onerous responsibility, I hesitated as to whether I could consistently accept this invitation. But I recalled the memory of a banquet in this room some three years ago upon the occasion of the Inland Waterways Convention, and I recalled the hospitality of your people and the responsiveness of your people to the necessity of that great work and enterprise; and so I concluded to leave a body which simply records public opinion, and does that rather feebly, for a body which really makes public opinion, and which makes public opinion with reference to a subject in which I am deeply interested.

Individually I don't like cities. I pity the people who live in the cities, or, rather, I pity the people who have to live in the cities. I have a feeling not quite so kindly as pity towards those who, having the ability to live elsewhere, do live in the cities. I live, myself, in a desert, in Nevada, or, rather, in a valley which has been rescued from the desert, surrounded by cloud-defying mountains, with the beautiful green of the alfalfa spreading before me for miles - with the mountains, in the changing lights of the region, at times receding and at times approaching until they seem about to overwhelm you; and, realizing there the immensity and the beauty of nature, I pity the city dweller. And even in Washington, I have betaken myself not to what I might call fashionable Washington, but have perched myself upon a hilltop, secluded from the city itself by the intervening trees so that you are not conscious of its existence, looking out on the beautiful views stretching down the Potomac and the mountains beyond, and imagining myself not a statesman or politician but a philosopher.

Now, I am at a loss to know how a man of my environment and my tastes and inclinations, should be called upon to instruct you regarding city planning in the United States; but the architects and the artists and the engineers

of the country have been kind enough to be too appreciative of some slight efforts I have made in Congress to protect them from political demolition; and so occasionally I find myself called upon to address such gatherings as these. It has been a great gratification, I am sure, to us, to listen to the splendid expositions made by the German Ambassador and our English guest regarding city planning in Germany and in England. England, perhaps, has not reached the same perfection in city planning that Germany has, because in England, as in this country, there is an intense individualistic existence; but in Germany, for generations, strong collectivism has controlled, that collectivism which is becoming now the prevailing spirit of the time everywhere. And Germany, philosophical always, is and has been ahead of us in the matter of city planning.

We have paid but little attention to it in this country: the growth of our cities has been an incidental growth. We have thought it necessary to secure our architects to plan our houses, and landscape architects to plan our grounds; but we have not realized that it is necessary to employ the highest engineering skill and the highest architectural skill and the highest artistic skill in planning our cities. It is only recently that we have reached some idea of the consequence of this question. The fact is, municipal government is probably the worst developed feature of our government. We are only beginning to concern ourselves with it; but we are taking hold of it with characteristic American energy, and we all hope to see great things accomplished within the coming generation.

I had some illustration of the businesslike way in which Germany does these things upon my last trip to that country. Being in one of her great cities with my brother-in-law, he told me that he had drifted in to the meeting of the town council, and had found the council engaged, not with political oratory, but in a businesslike discussion regarding the employment of a mayor, not the election of a mayor, but the employment of a mayor. He found

that in Germany, the mayoralty was a profession, just as the position as traffic manager in this country belonged to a profession; and the cities employed them upon the record that they had made; and the town council of that great city was engaged in determining whether they would employ a certain mayor who had made a great record in a smaller town at a salary thousands of marks higher than they had been accustomed to paying; and they concluded to employ him, and entered into a contract with him for a definite number of years; and he entered upon his work. Now, I must say, I think, with due deference to our mayor himself, that that is a better system; but I should say in order that I may not hurt his feelings, and in order that I may do him full justice, from the exhibition we have had this evening in his remarks, of his advanced views and comprehensive ideas upon this subject, - that if the mayoralty was a profession in this country, he would be in great demand.

Now, we often wonder at the inability of society to meet great social questions. We drift along. How long are we going to drift regarding this question of high buildings? Until New York has buildings twenty stories deep beneath the surface and one hundred stories above? With rapid transit lines underground ten stories deep, with streets so inadequate that if an alarming fire were to take place, the residents of these buildings hurrying down in the street would be a horribly writhing mass fifty feet deep - are we going to drift along further in that direction? Is it not a profanation of nature, or the laws of nature, to permit one-twentieth of the population of this country to fasten itself upon the ten-miles square of which New York is the center? And how long is London to increase, which to-day has one-eighth of the entire population, I believe, of England, Ireland, and Scotland?

They took hold of that question in England by legislation years ago, — rough legislation, brutal legislation, — and they failed. The question remains, whether, in this

era of social thought and social endeavor, we cannot reach a proper solution of the distribution of population, so that all people can enjoy the beauties of nature, and can enjoy the greatest satisfaction known to man, the delights of the eye.

Modern city building is now becoming a profession. It includes, of course, broader streets, radial avenues, a civic center, parks and parkways, public spaces for its purposes, and the arrangement of transportation to facilitate the movements of people and of freight; and it involves the union of beauty with utility. For we are beginning to realize that ugliness is the most costly thing under which we suffer. I recall shortly after the San Francisco fire, when the fire, not the earthquake, reduced sundry possessions upon which I relied for income, how I pondered upon the restoration of that city: it seemed to me that it was the time above all other times when they should immediately send for the best talent of the country and formulate a city plan. It was an opportunity which Baron Haussmann would have welcomed; for he had to destroy large portions of Paris in order to create a new Paris; whilst the larger portion of San Francisco was destroyed and ready for the planner. Yet so intense was the individualism of the place that it was utterly impossible (though I urged it at the time) to get them to consider the question of bringing out there the great constructors and architects of the country like Burnham and Carrere, and engineers like Parsons, and landscape architects like Olmsted to establish a commission to take hold of that city in its ashes and plan it for its new development - establishing, in place of the scurvy individualism of that gorgeous city, an intelligent collectivism.

To-day they are planning for an exposition to celebrate the opening of the Panama Canal; and yet I find there the sentiment drifting in favor of the old conventional idea — getting some suburban place, absolutely naked, five or six miles from the city, not much frequented, not much

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in evidence, and there making a new and a beautiful creation; when they could, with the aid of such men as I have suggested, take hold of the water front itself, the very seat of commerce, and create, possibly by the destruction of existing buildings, possibly without, a great water-front development, which would make a study of the traffic arrangements of the city, which would bring car and ship together, which would take hold of the two great summits there, terrace them, put upon them magnificent buildings of a permanent character and ultimately use all the buildings constructed upon that waterfront for the purposes of this exposition, for purposes of commerce —fish markets, fruit markets, flower markets, storage warehouses: thus by one great effort redeem the opportunity which they lost four years ago.

The restoration of the city has been amazing, the great courage of its people impressive. It is fittingly termed by Secretary Gage the "Miracle City"; and yet it has been all the result of individual effort, for I believe that there is no community in the world where the individual pulls more weight than in the city of San Francisco - yet entirely without collective effort. Now, if we had some organization in this country of town planning, some governmental organization, such as they have in England, an opportunity of that kind would be seized and the government itself would be at hand to make the suggestion, with all its force and authority. The question is, how can we make a great governmental organization that would supplement your work, that would supplement the work of the architectural association and of the artistic associations and of the federated arts of the country, organizing this propaganda so that it will affect every city and every town in the United States? Here we have that difficulty of government to which the Toastmaster, the Secretary of the Interior, has alluded. We have one great national sovereignty, and we have forty-six state sovereignties, forty-seven in all to be considered. Each sovereign is absolute within

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the limits of its jurisdiction; and the national sovereignty exists within the area of all the other forty-six sovereignties. Whenever we bring up a question that involves really constructive work in the Congress of the United States, the constitutional lawyers get to work - these men who have been brought up on the constitution and who think their mission is with it to bar all progress; and they raise the objection that the nation cannot do this thing, because it is not within the granted powers, and that each individual state must take it up. Then we find some states are more enlightened than others: some may take it up and others will not. There is no general and simultaneous movement, such as could be secured if you would bring all these items into co-operation with each other - the national sovereignty with the state sovereignties. Let each act within its jurisdiction, without this endless and eternal talk about constitutional rights and constitutional limitations. If you will bring them all into team work, you have got all the power that is necessary to do anything that can be done by any government, free or absolute. For within them all, you have all the powers of government, national and state.

Now, how can we bring them into co-operation? That is the question. How can we induce our constitutional sharpers in Congress to bring this eternal talk about the constitution to work? Why, you have got to create a public opinion that will be strong and controlling; and you have got to bring that public opinion to bear upon each individual congressman, and you have got to bring it to bear upon him through the action of his individual constituents. The public opinion that he relies upon is the public opinion of the people who return him to Congress. The benefit of these great organizations which are springing up all over the country—artistic organizations, musical organizations, scientific organizations—each of them following the pattern of our form of government, organizing locally, then creating a set of associations, and then

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meeting, as you have, in national conference, — is the bringing all organizations, through their representatives, into conference with each other and thus creating a public opinion. You can control all of them, if you only federate these organizations. I believe some have already been federated, and that there is now at Washington the Congress of the Federated Arts. If you can only get an expression from them as a federation, and then impress upon the individual state associations represented in the federation, and then let those state federations impress the local organization with the importance of presenting these questions to the individual senator or the individual congressman, you will create a public opinion which he will respect. You cannot tell the power and the influence exercised upon the public man by the views of his own neighborhood; and, generally, organizations of this kind can pass resolution after resolution without effect; but their effect will be potential if these organizations, in addition to the general resolutions, will impress upon their constituent organizations, in the various states and the various cities and towns, the importance of bringing the matter directly to the attention of their representatives in the Congress of the United States; and so I suggest that that should be done, and that this association should engage with these other associations to which I have referred, in creating a public opinion that will be potential.

The form of the organization, national and state, is not difficult to devise. It is best to be guided by the lamp of experience in these matters; and we find, already, that much has been done on certain scientific lines, by the nation in co-operation with the states, in the matter of agriculture. The constitutional lawyers were not able to find anything in the constitution of the United States regarding farming; and for a long time they were in doubt as to whether the Congress of the United States had the right to consider the matter at all. But their constituents happened to be farmers, and these farmers had a lively disregard of con-

stitutional law, and a very keen perception of their own interests. When the question of the organization of the Department of Agriculture came up, the constitutional lawyer dissolved and in his place we had a practical statesman, who met this question in a statesmanlike manner; and the Department of Agriculture, commencing first as a mere bureau, has become one of the most useful departments of the government, largely in an educational way, with great scientific men connected with the service. Here let me say that there are no more devoted men to their vocations than these men connected with the scientific and not with the political service of the government. And they have brought themselves into relations with the state universities, and in many of the states themselves bureaus of agriculture or departments of agriculture have been organized.

The result of that gradual process of evolution has witnessed the highest marvels of team work going on, between the nation and the governments of forty-six states, in the promotion of agriculture.

It is true there is nothing about engineering, or art, or city planning in the constitution, but it seems to me that we can organize a Department of Architecture and Arts and City Planning, if we can organize a Department of Agriculture. The people of the cities have some rights, as well as the farmers. We can bring about, gradually, this system of co-operative work, not only organizing a national Department of Architecture and Arts and City Planning, but also organizing, in every state, commissions or boards devoted to this work; and, going beyond them, organizing in the towns and in the cities themselves, similar boards and commissions, so that they can exchange views and exchange plans, and so that the knowledge and experience and information of one will become the property of all. If that is done, I can't imagine what a revolution will be accomplished within an amazingly short space of time.

Now, my friends, I am afraid I have taxed you too long
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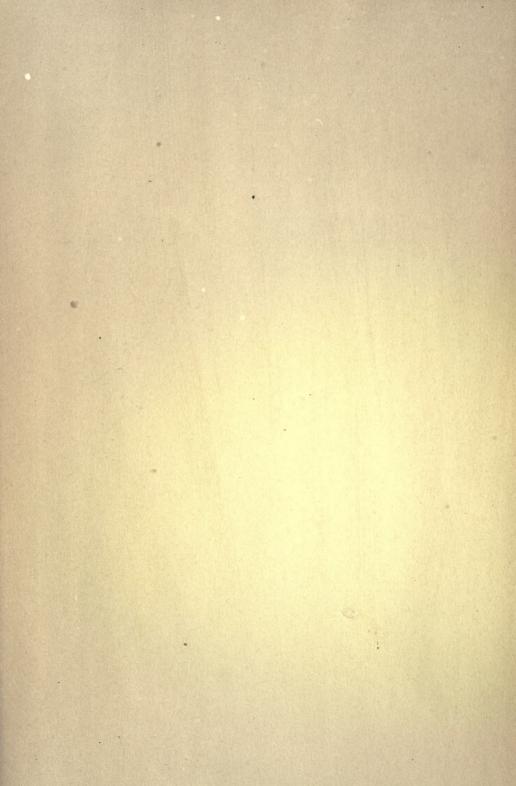
with these practical views regarding organization, and the time admonishes me that I must close. I want to express to you my great gratification in being able to attend this conference. I only wish that I had been able to be with you during all of your deliberations. I hope that the various papers and speeches presented there will be put into some enduring form, so that we who did not have the privilege of attending will have an opportunity of reading them, and that they will be put into a form so as to be educational throughout the entire country. American people are taking hold, now, of this question of beauty as a practical thing. We had a sad period during the middle of the last century: we were so taken up with material matters that we abandoned many of the traditions which Washington and Jefferson and gentlemen of that type of culture and refinement were identified with. That period was a period of material progress, without much æsthetic flavor.

We are now reaching a different period — a period of the greatest altruism, when people are thinking much of the social relations, of the duty of man to his fellow man, of the duty of the prosperous to the less prosperous, the duty of the intelligent to the ignorant; and those men who can take care of themselves in the trying race of individualism are now looking out for opportunity to help, both individually and in the mass, their unfortunate brethren. And during the next generation, we can look forward to great achievement, if we not only exercise imagination, which is a most valuable thing, but also exercise practical judgment, and bring practical work to the aid of advanced and æsthetic ideas.











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